

SAN BERNARDINO COUNTY

INITIAL STUDY ENVIRONMENTAL CHECKLIST FORM

This form and the descriptive information in the application package constitute the contents of Initial Study pursuant to County Guidelines under Ordinance 3040 and Section 15063 of the State CEQA Guidelines.

PROJECT LABEL:

| | |
|--------------------|---|
| APN: | 0438-212-01, -02 |
| Applicant: | Mr. Stanley Chin CF SBC OWNER ONE LLC 150 Mathilda Place, Suite 206 Sunnyvale, CA 94086 (408) 338-0813 |
| Community: | Apple Valley |
| Location: | West of Central Road, south of Tussing Ranch Road, and north of BNSF railroad tracks |
| Project No: | P201300557 |
| Staff: | Tracy Creason, Senior Planner |
| Rep: | Mr. Jeremy Krout EPD Solutions 450 Newport Center Drive, Suite 300 Newport Beach, CA 92660 |
| Proposal: | Conditional Use Permit to establish an approximately 3-megawatt solar photovoltaic electricity generation facility on 23 acres and Merger of 2 parcels on 23 acres. |

USGS Quad: Apple Valley South
Lat/Long: 34°26'28"N/117°10'15"W

T, R, Section: T4N R3W Sec. 14

Thomas Bros P4478/GRID: B-3

Community Plan: none
LUZD: AV/RL
Overlays: Apple Valley Sphere Standards, FS-2, Biotic Resources (Mohave Ground Squirrel, Desert Tortoise)

PROJECT CONTACT INFORMATION:

Lead agency: County of San Bernardino
Land Use Services Department
385 N. Arrowhead Avenue, 1st Floor
San Bernardino, CA 92415-0182

Contact person: Tracy Creason, Senior Planner
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PROJECT DESCRIPTION:

CF SBC OWNER ONE LLC (applicant) proposes to construct and operate the Apple Valley East Solar (Project) facility, a 3-megawatt (MW) photovoltaic (PV) solar energy generation facility on a 23-acre site. The Project site is located west of Central Road, south of Tussing Ranch Road, and north of BNSF railroad tracks in an unincorporated area of the Apple Valley community in San Bernardino County (County).

The project requires a Conditional Use Permit (CUP) to permit operation of a renewable energy generation facility. A Lot Merger (MRG) is also requested to avoid the placement of project facilities over parcel lines.

The project area is situated within Section 14, Township 4 North, Range 3 West, S.B.B.&M. of the Apple Valley South, CA USGS 7.5-minute topographic quadrangle at approximately Lat/Long 34°26'28"N/117°10'15"W (See **Figures 1 and 2**). Project site and surrounding area photographs are provided in **Figure 3**.

FIGURE 1: Vicinity Map

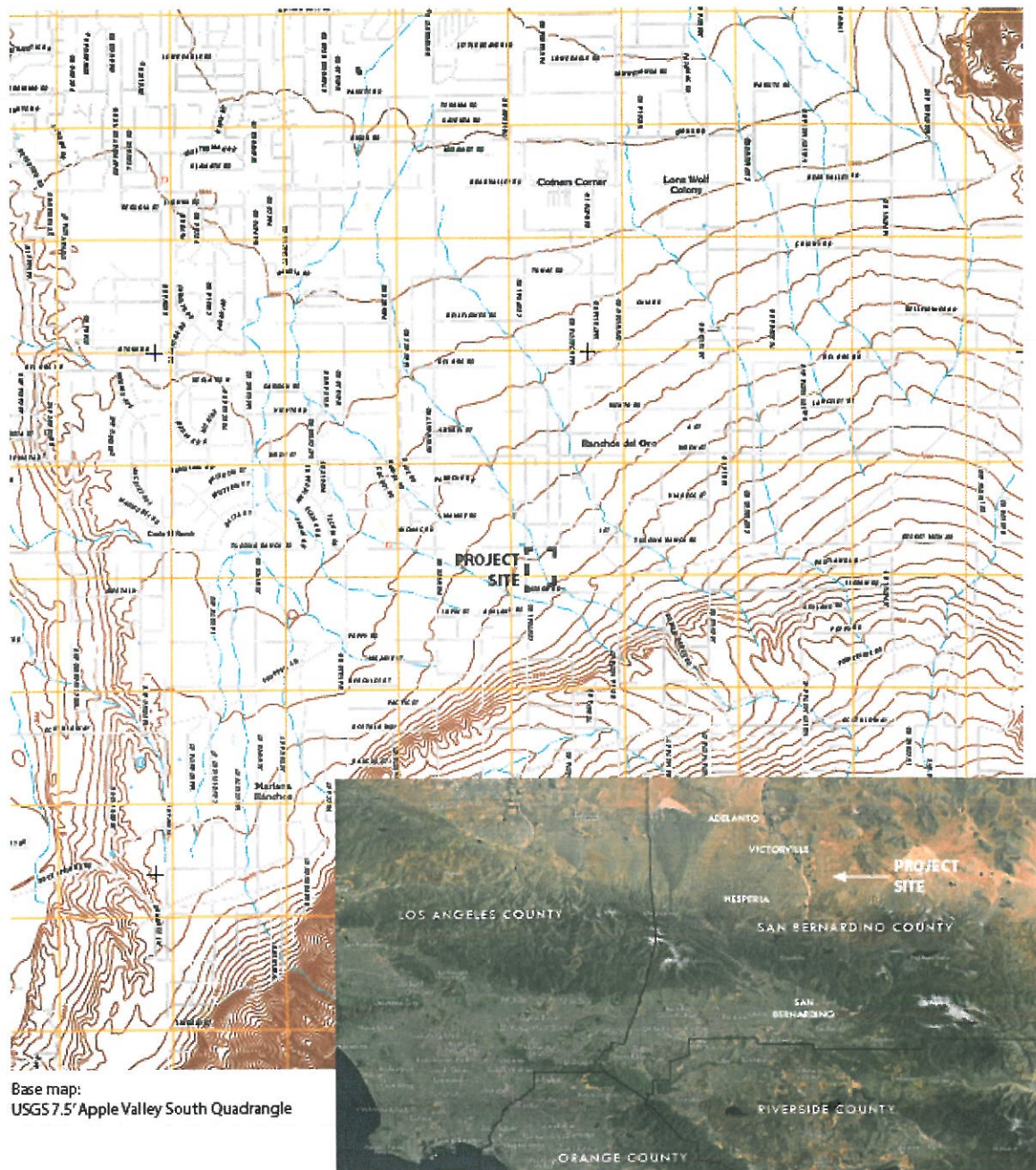


FIGURE 2: Local Area Map



FIGURE 3: Site and Surrounding Photographs



Photo 1: View of site looking southeast from northwest corner, at intersection of Central and Tussing Ranch Roads.



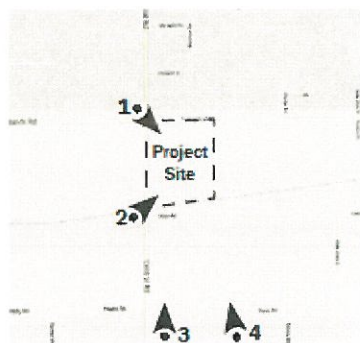
Photo 2: View of site looking northeast from southwest corner, at Central Road.



Photo 3: View looking north from hills to the south of the site.



Photo 4: View looking north from hills to the south of the site.



Project Setting

Regional Setting

The project site is located in the Mojave Desert region of San Bernardino County. The Mojave Desert comprises the County's Desert Planning Region, which contains 93 percent of San Bernardino County's land area. The Desert Planning Region consists of an assemblage of mountain ranges interspersed with long, broad valleys that often contain dry lakes. The local area of the project is in an unincorporated area of Apple Valley, within the Town of Apple Valley's Sphere of Influence (SOI). Land uses in this area consist primarily of vacant land interspersed with rural residential development. Other uses include small-scale commercial development, support services such as schools, and other public facilities.

Major transportation routes in the region include:

- Bear Valley Road. This roadway, running in an east-west direction, is located 2 miles north of the site. Near the site, it varies from two to four lanes in size. To the west the roadway widens to six lanes. Some portions of the road have sidewalks, curbs, and streetlights, while other segments lack these features. The roadway is identified in the General Plan's Circulation and Transportation map (Victor Valley Region) as a Major Arterial Highway; this roadway classification is defined by the Development Code as a six-lane roadway with a minimum right-of-way of 120 feet.
- State Route (SR) 18. This roadway, generally running in a northwest-southeast direction, is located 3.5 miles northeast of the site. Near the site, it is a two-lane roadway with no curbs, sidewalks, or streetlights. Portions of the roadway are identified in the General Plan as a Major Arterial Highway, with the remainder as Major Highway. The Major Highway classification is defined by the Development Code as a four-lane roadway with a minimum right-of-way of 104 feet.

The nearest freeway to the project site is Interstate 15 (I-15), located 10 miles to the west via Bear Valley Road. In addition to major roadways, the region contains numerous paved and unpaved local streets providing access to individual parcels.

There are no airports in the project vicinity. Hesperia Airport, a small, private airstrip, is located about 9.5 miles to the southwest, and Apple Valley Airport, a public airfield, is 9.5 miles to the north.

Local Setting

The area immediately surrounding the project site primarily consists of vacant land with desert vegetation intermingled with rural residential development. Four single-family residences are located within 500 feet of the project parcel.

Central Road, running along the western edge of the site, is a paved two-lane road. Tussing Ranch Road, running along the northern edge of the site, is paved from 400 feet east of Central Road west, but is unimproved along the site's northern frontage. Both Central Road and Tussing Ranch Road are designated in the General Plan Circulation and Transportation map as Major Highways. Neither of these roads has sidewalks, curbs, or streetlights. Most other roadways in the project vicinity are unimproved.

Existing bicycle facilities are limited. A Class I bike path is present along Tussing Ranch Road beginning 0.7 mile west of the site, and future Class II bike lanes are planned along Central Road and Tussing Ranch Road adjacent to the site, connecting to more heavily urbanized areas to the northwest. San Bernardino Associated Governments long-range planning shows no such facilities planned or proposed in the area.

Public transportation services in the project vicinity are limited. The Victorville Valley Transit Authority operates service in the Apple Valley area. There are no fixed transit routes in the vicinity of the project site, but “deviated” service from fixed routes is available by reservation. Such service provides access to regional destinations such as Victorville and Hesperia.

The project site is located within the Apple Valley Unified School District (AVUSD). Local schools serving the site include Mariana Academy (K-8), 0.8 mile to the west, and Apple Valley High School, 2 miles to the northwest.

Fire protection for the project site is provided by the Apple Valley Fire Protection District (AVFPD). The nearest fire station is Station 335, located 0.7 mile to the west of the project site. Police protection for the project site is provided by the San Bernardino County Sheriff-Coroner Department (SBCSD). The Apple Valley Station, located 6.3 miles northwest of the project site, serves the local area. The nearest medical facility to the project site is Desert Valley Hospital, about 7.2 miles northwest in Victorville.

The project site is located within the Mariana Ranchos County Water District. This district provides water service to a population of about 1,800 over a 7-square-mile service area. No sewer services are available in the project vicinity. All local properties use septic systems.

Existing Site Land Uses and Conditions

The site consists of two parcels covering about 23 acres. The site is currently vacant with no physical improvements. There is refuse and other human disturbance in portions of the site, especially in the northwestern corner.

A dedicated but mostly unimproved right-of-way is present for Tussing Ranch Road along the northern edge of the site. Central Road, bordering the site to the west, is improved as a paved two-lane roadway. No local streets have improvements such as curbs, sidewalks, or street lighting.

The site is generally flat, at an elevation of 3,100 feet. Gravelly, loamy soils are present on the site. Plant communities in the project area are predominantly a combination of creosote bush scrub with Joshua tree woodland. A wash is present on the project site, generally running in a northwest-southeast direction.

According to data from the California Department of Conservation’s Farmland Mapping and Monitoring Program, the project site is classified as Grazing Land, which is not an Important Farmland category. The project site is not protected by Williamson Act or Farmland Security Zone contracts.

The applicable Federal Emergency Management Agency (FEMA) Flood Insurance Rate Map (unprinted panel No. 06071C6510H) indicates the site is within Zone D, meaning flood hazards for the area have not been determined. The site is not within a local flood hazard overlay, as mapped in the County General Plan Land Use Plan’s Hazard Overlays Map.

California Department of Forestry and Fire Protection (CAL FIRE) mapping shows the site to have a Moderate wildland fire hazard.

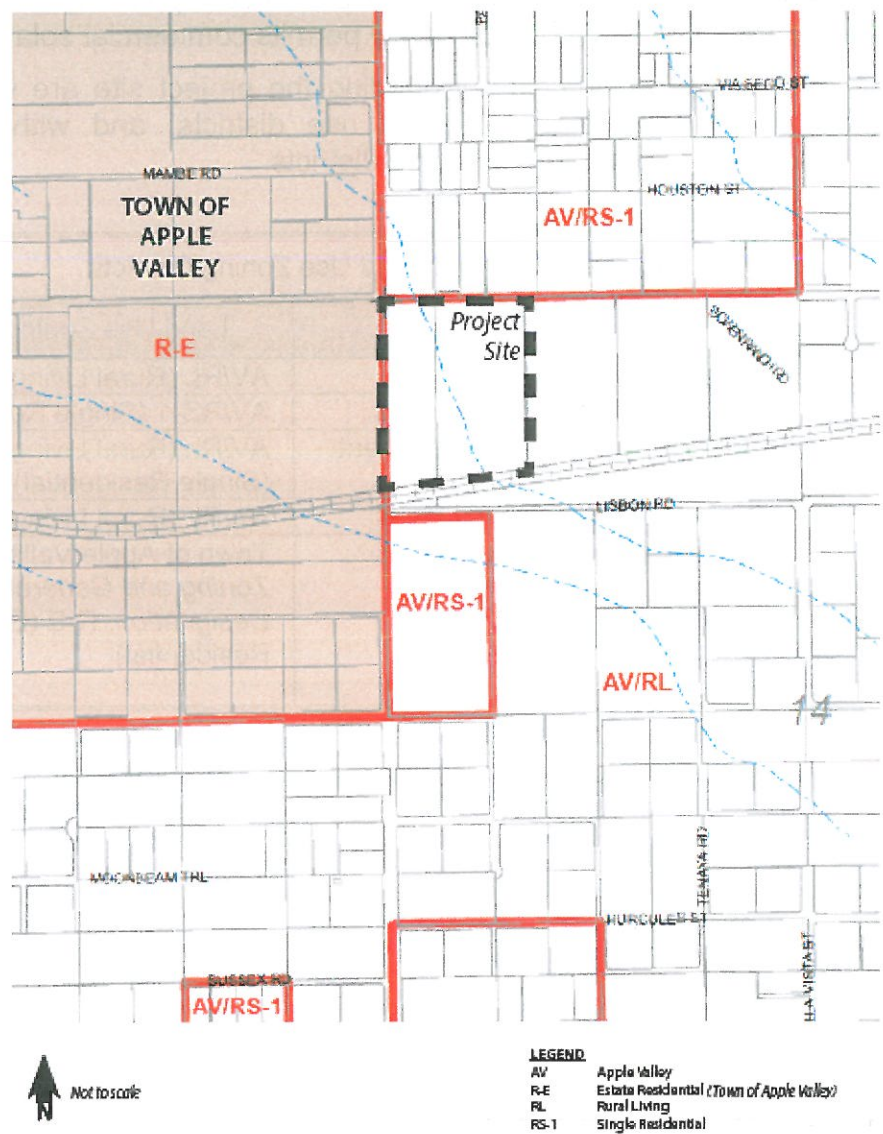
Existing General Plan Land Use Zoning Designations

Land uses on the project site and surrounding parcels are governed by the General Plan. The site's land use zoning designation is RL (Rural Living). The RL district is primarily intended to provide for residential land use development, and also conditionally permits commercial solar power generation.

As shown in **Table 1** and **Figure 4**, parcels surrounding the project site are within the RL (Rural Living) and RS-1 (Single Residential) County land use districts, and within the R-E (Estate Residential) Town of Apple Valley zoning and land use districts.

| Table 1: Existing Land Use and Land Use Zoning Districts | | |
|---|---|--|
| Location | Existing Land Use | Land Use Zoning District |
| Project Site | Vacant land | AV/RL (Rural Living) |
| North | Rural residential; vacant lands | AV/RS-1 (Single Residential) |
| South | Railroad; rural residential; vacant lands | AV/RL (Rural Living); AV/RS-1 (Single Residential) |
| East | Rural residential; vacant lands | AV/RL (Rural Living) |
| West | Rural residential; vacant lands | Town of Apple Valley Zoning and General Plan Designation: R-E (Estate Residential) |

FIGURE 4: Existing Land Use Zoning Designations



PROJECT OVERVIEW

The proposed Apple Valley East Solar project is a 3-megawatt solar PV electricity generation facility on a 23-acre site. Once constructed, the facility would produce enough electricity to serve about 1,100 homes. Implementation of the project requires the approval of a CUP to permit a renewable energy facility, and a MRG to avoid having project facilities cross parcel boundaries.

Overview of Solar Technology

Solar cells, also called *PV cells*, convert sunlight into electricity. PV gets its name from the process of converting light (photons) to electricity (voltage), which is called the *PV effect*.

PV cells are located on *panels*, which may be mounted at a fixed angle facing a southerly direction. The combination of solar panels into a single system creates a *solar array*. For large electric utility or industrial applications, hundreds of solar arrays are interconnected to form a large, utility-scale PV system.

Traditional solar cells are made from silicon, are usually flat-plate, and are generally the most efficient. Second-generation solar cells are called thin-film solar cells because they are made from amorphous silicon or non-silicon materials such as cadmium telluride. No panels incorporating cadmium telluride are proposed on the project site. Thin-film solar cells use layers of semiconductor materials only a few micrometers thick. Because of their flexibility, thin film solar cells can double as rooftop shingles and tiles, building facades, or the glazing for skylights.

Third-generation solar cells are being made from a variety of new materials besides silicon, including solar inks using conventional printing-press technologies, solar dyes, and conductive plastics. Some new solar cells use plastic lenses or mirrors to concentrate sunlight onto a very small piece of high-efficiency PV material. The PV material is more expensive, but because so little is needed, these systems are becoming cost-effective for use by utilities and industry. However, because the lenses must be pointed at the sun, the use of concentrating collectors is limited to the sunniest parts of the country.

The amount of the sun's heat absorbed by a solar panel is similar to the amount of the sun's heat absorbed by the earth. On the other hand, solar panels store less heat than the earth. A solar panel is thin – the glass is approximately 3 millimeters (0.12 inches) in thickness – lightweight, and surrounded by airflow (because it's mounted above the ground). Therefore, heat dissipates quickly from a solar panel. The normal operating condition temperature for solar panels would be 20 degrees Celsius (°C) or 68 degrees Fahrenheit (°F) above ambient temperature, and so a typical summer day at 40°C (104°F) results in panel temperatures of approximately 60°C (140°F). When accounting for irradiance, wind, and module type, it is expected that the peak module temperatures in the summer would be between 65°C and 70°C (149 and 158°F) and the peak module temperatures in the winter would be between 35°C and 40°C (95 and 104°F). Although the panels would be hot to the touch, they would not noticeably affect the temperature of the surrounding area; temperatures below the trackers would be nearly the same as ambient temperatures in the ordinary shade.

Project Objectives

The applicant's objectives for the proposed project are to:

- Develop a solar power generation project to help meet the increasing demand for clean, renewable electricity.

- Develop a solar power generation project that will help California meet its statutory and regulatory goal of increasing renewable power generation.
- Develop a solar power generation project that contributes to the California Renewables Portfolio Standard goal of 33 percent of California energy coming from renewable sources by the year 2020.
- Locate project facilities in an area that optimizes desirable solar project characteristics with minimum potential for environmental impacts.
- Minimize the length of project generation-tie (gen-tie) distribution lines to optimize connection to the electrical grid with minimum potential for environmental impacts and land use conflicts.
- Develop a project that utilizes a reliable and proven solar technology with minimal use of natural resources.
- Provide a range of job opportunities related to renewable energy generation.

PROJECT FEATURES

Major project features would include the following elements. The project site plan is provided in as **Figure 5**. The project is expected to be in operation for at least 20 years or longer if the project remains economically viable. At the end of the economically useful life of the facility would be removed.

Solar Field

A solar field would be the primary feature of the proposed project. Solar panels would be organized in rows, with each row separated by about 20 feet (from post to post). Generally, panels would be approximately 8 to 11 feet in height including the panels and steel support structures. A cross-section of typical panel layout is labeled on Figure 5 as “PV Array Detail.” As shown in the figure, the panels will be installed at a fixed angle facing south to maximize the collection of solar energy as the sun tracks from east to west. The facility would operate year-round, producing electric power during daytime hours.

Inverters and Switchgear

Individual PV panels are connected together in series to create a “string” to carry direct current (DC) electricity. Strings of DC current run to inverters mounted on small concrete equipment pads distributed across the site. The inverters take the DC output and convert it to alternating current (AC) electricity. The electricity is then delivered onsite via above-ground power lines or underground conduit to an onsite substation located on a concrete pad where all of the facility’s output is combined and transformed to a voltage of 12 kilovolts (kV) and transported to the local power distribution network via an above-ground connection to an existing power distribution line along Central Road. The project would connect directly to this line, with no off-site distribution line extension required. A meteorological data collection system would also be installed at the substation pad to collect meteorological information at the height of the PV panels.

Perimeter Fencing and Access Roads

Seven-foot-tall chain link fencing is proposed along the perimeter of the project site. Access gates would be provided at the site's entry from Central Road.

Central Road would be the project access road during construction and operations. On- and off-site access roads will be paved with an aggregate base from the Central Road entry point. Within the site, a 26-foot-wide aggregate base perimeter access road would be constructed along the project's fence line. Other interior access routes would be 20 feet in width. Non-perimeter roadways within the site would consist of gravel, an aggregate base, or native materials with a soil stabilization material, if necessary.

Lighting

No permanent lighting is proposed on the project site.

Stormwater Facilities

With development of the proposed solar facility, there would be a less than one percent reduction in pervious site acreage. Fencing and solar panel supports would have little influence on stormwater flows and the proposed site grading would not alter or concentrate the stormwater flows through the site. There is one drainage crossing the center of the site; this facility will not be impacted by the project. The project is anticipated to have very limited impact on site drainage, with no changes to drainage patterns or flows. Water would be permitted to follow current courses and flow through the site. Current drainage patterns are generally towards the north. No onsite detention facilities are planned.

During rain events, the solar panels would drain freely to the ground. The lower end of the panel would be approximately 24 inches above the ground. Runoff would be limited to that which rains on the panels—an area of about 200 square feet for a typical panel design. Based on the small volume of water falling from each panel and the low height of the fall, it is not expected that erosion beyond a micro level will occur. Water will fall from the PV panels and pond at a drip point before infiltrating or gradually migrating into the existing drainage patterns. If, over time, minor erosion was noted at the drip points, small gravel pads could be added to help dissipate the energy of the falling water. If minor erosion were noted near the foundations, minor grading could restore support for the individual foundations, and keep surface flows from undermining the foundations in future storm events.

Other Infrastructure

Because the project site would not house any permanent employees, no onsite restroom facilities are proposed. Therefore, no wastewater would be produced and no septic system or other disposal facility would be required.

No water service is proposed at the site. Water required during construction would be obtained from local fire hydrants, with the approval of the Mariana Ranchos County Water District. Water requirements during operations will be negligible (i.e., for occasional cleaning of solar panels) and would be trucked to the site as needed.

BEST MANAGEMENT PRACTICES/PROJECT DESIGN FEATURES

Various attributes and features of the project serve to minimize negative impacts on local land uses. These include:

Construction Process

Disruption to the community is minimized through placement of the site access point along an existing paved roadway, Central Road. This allows construction traffic to efficiently reach the nearest major roadway, Bear Valley Road, 2 miles to the north. Construction hours will be limited to daytime hours; no overnight work is expected.

Residential Buffers

The project is located to create buffers from nearby residences with setbacks significantly larger than required. Perimeter access roads 26 feet in width also serve to increase buffers between project equipment and structures on neighboring parcels.

Solar Technology – Glare and Lighting

The project uses solar panels that have a low profile (typically 9 feet, but no more than 11 feet in height at the highest point during the day) to minimize visual impacts. These solar panels produce about the same amount of glare as windows on homes and result in less glare than a body of water, such as a lake.

Nighttime lighting impacts are minimized by avoiding the placement of permanent fixtures.

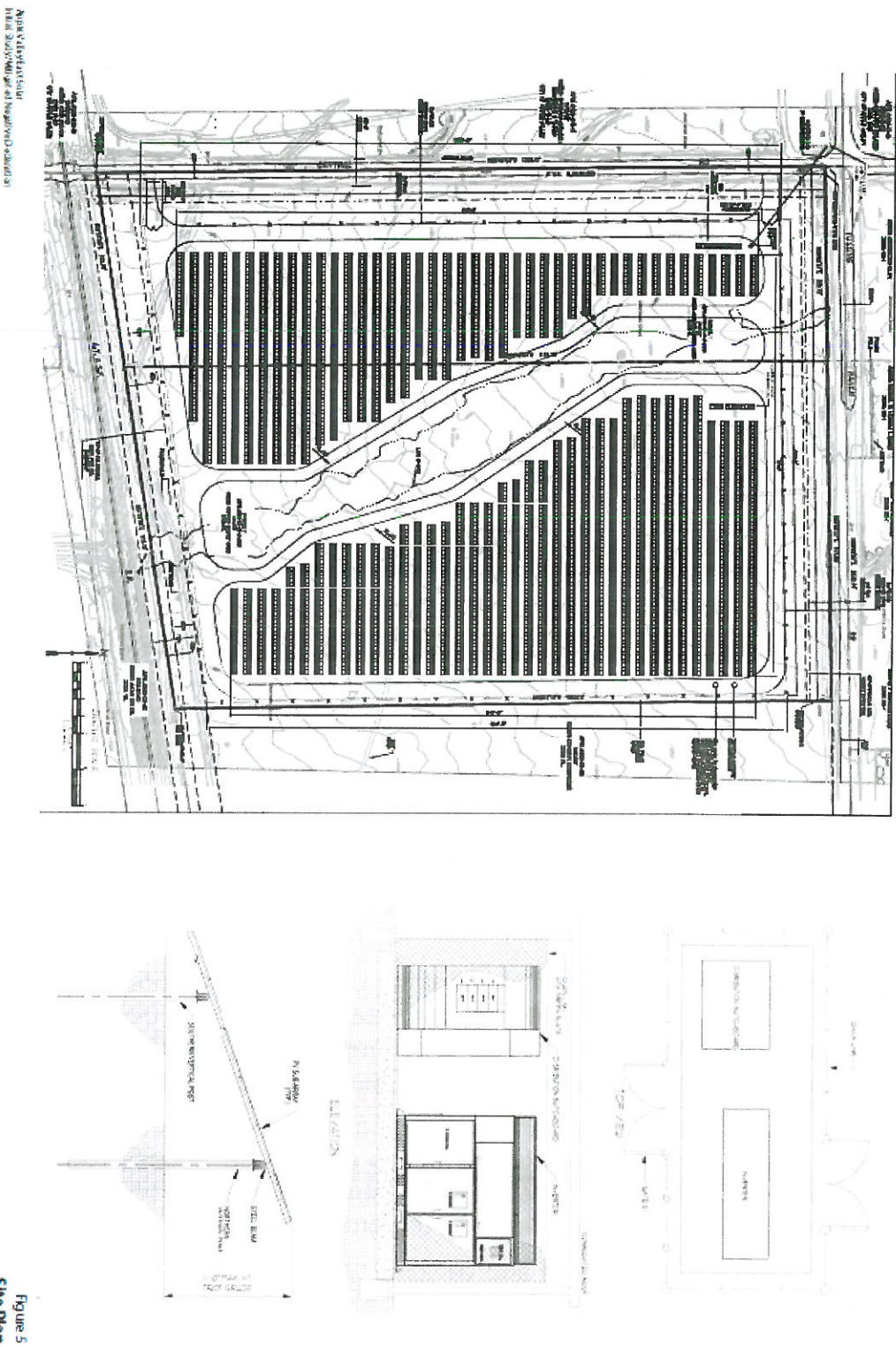
Noise Reduction

The only noise-producing project feature—the inverters—are placed at a substantial distance from the site boundary to ensure off-site areas do not experience noise levels exceeding County standards.

Biology and Hydrology

The project would preserve the existing jurisdictional feature on the site. In addition, minimal paving is used to preserve existing site hydrology. Site selection plays an important role in biological protection; the selected site is not known to contain any protected species.

FIGURE 5: Site Plan



CONSTRUCTION

Site Preparation

The site is mostly flat. Grubbing would occur on the site to achieve the required surface conditions. Mass grading is not expected given the relatively flat terrain of the site and the absence of heavy groundcover. Cut and fill is expected to affect about 1,600 cubic yards of material. The site is expected to balance and not result in import or export. This cut and fill estimate accounts for the approximate total earth volume disturbance based on clearing and grubbing, minor grading, scarifying and recompacting the upper 12 inches of soil. Such grading is expected to have minimal impact on existing drainage patterns and overall topography of the site. As the site is vacant, no demolition is required.

At locations where foundations are installed for the inverters, it is expected that minor cuts would be required to place the foundations on a level pad. It is expected that the fill from these cuts would be placed around the pre-cast foundation in order to divert small, localized flows away from the foundation and prevent undermining of the same.

Following initial site preparation, temporary fencing would be placed around the site. This would allow for materials and equipment to be securely stored on the site.

Construction Access Routes and Laydown Areas

Construction vehicles would access the project site from Central Road, which leads to Bear Valley Road 2 miles to the north. Bear Valley Road provides access to I-15 to the west and SR-18 to the east.

During construction, materials would be placed within the project boundaries adjacent to the then-current phase of construction. Materials would be within secured, fenced areas at all times to prevent theft or vandalism. A storage container may be used to house tools and other construction equipment. In addition, security guards would regularly monitor the site.

Portable toilet facilities would be installed for use by construction workers. Waste disposal would occur in a permitted offsite facility. Domestic water for use by employees would be provided by the construction contractor through deliveries to the site.

Construction Activities and Equipment

Construction is anticipated to occur over 4 months. Up to 50 workers would be onsite during construction. Most workers are anticipated to commute to the site from nearby Apple Valley, Hesperia, and Victorville. Construction would occur during daylight hours. Workers would reach the site using existing roads, with most traveling on Bear Valley Road to Central Road.

Project construction would consist of two major phases. The first phase would include site preparation, grading, and preparation of staging areas and onsite access routes, and the second phase would involve assembly of solar panels and construction of electrical interconnection facilities. Solar panels would be mounted on piles driven into the ground.

During construction, a variety of equipment and vehicles would be operating on the project site. **Table 2** provides a list of the type and number of equipment and vehicles for each construction phase. All equipment and vehicles would comply with the noise requirements of Title 8 of the San Bernardino County Code.

Based on similar projects already constructed, water use during construction can be expected to be a maximum of 8,000 gallons per day (gpd) during grading and 2,500 gpd during other activities. This would result in the use of 1.1 acre-feet of water over the 4-month construction period.

Dust Control and Erosion Control

During construction, the project would comply with Mojave Desert Air Quality Management District's (MDAQMD) Rule 403, Fugitive Dust, and Rule 403.2, Fugitive Dust Control for the Mojave Desert Planning Area, which requires certain measures during the construction process to minimize dust emissions. Additionally, the project would be required to prepare a Storm Water Pollution Prevention Plan (SWPPP) as required by the State Water Resources Control Board's Construction General Permit, which would further control water and wind erosion during construction. Implementation of the MDAQMD Rules and SWPPP requirements would mandate the use of a number of strategies during construction to control fugitive dust due to high winds from the project site, such as the following:

- Periodic watering of the site.
- Actions to prevent dust trackout onto paved roads.
- Stabilization of graded site surfaces when delays of 30 days or more in construction are expected.
- Cessation of earth-moving activities during high wind conditions.

Construction Phasing

Construction of the project is expected to occur in two phases over about 4 months. Phase 1 involves site preparation and Phase 2 includes PV system installation. Phase durations, equipment, and staffing are further described in **Table 2**.

| Table 2: Construction Phasing | | | | |
|--------------------------------------|------------------------|-----------------|---|----------|
| Phase | | Duration | Equipment | Staffing |
| 1 | Site Preparation | 1.5 months | Graders (2) Dozer Tractors/Loaders/Backhoes (2) Water Truck | 20 |
| 2 | PV System Installation | 2.5 months | Trenchers (3) Welders (3) Forklift, rough-terrain (3) Generator set Tractors/Loaders/Backhoes (2) | 50 |
| <i>Total</i> | | <i>4 months</i> | | |

OPERATIONS

The project facilities would be automated to allow for operation without staff being present. By nature, solar power generation projects operate during daylight hours, 365 days per year. Staff would visit the site to provide maintenance services and ensure proper operation. Maintenance staff and security

personnel would visit the site every one to two days. Activities would be monitored remotely by staff at an offsite location.

Washing of the solar panels, which may be necessary to maintain panel efficiency, would occur approximately two times per year. Washing would require an increase in temporary staffing onsite and the use of water trucks. Trucks would obtain a supply of water from offsite sources. Less than 1 acre-foot of water would be required per year for panel cleaning activities. A portion of the water used in cleaning would evaporate into the atmosphere; the remainder would remain on the site and percolate underground. Negligible amounts of water used in panel washing would flow offsite.

Decommissioning

Should operations at the site be terminated, the facility would be decommissioned. Most parts of the proposed system are recyclable. Panels typically consist of silicon, glass, and an aluminum frame. Tracking systems typically consist of steel and concrete, in addition to motors and control systems. All of these materials can be recycled. Numerous recyclers for the various materials to be used on the project site operate in San Bernardino and Riverside Counties. Metal, scrap equipment, and parts that do not have free flowing oil may be sent for salvage. Equipment containing any free flowing oil would be managed as waste and would require evaluation. Oil and lubricants removed from equipment would be managed as used oil – a hazardous waste in California. Decommissioning would comply with federal, state, and local standards and regulations that exist at the time of project shutdown, including the requirements of San Bernardino County Development Code Section 84.29.060.

Other public agencies whose approval is required (e.g., permits, financing approval, or participation agreement):

- Mojave Desert Air Quality Management District

EVALUATION FORMAT

This initial study is prepared in compliance with the California Environmental Quality Act (CEQA) pursuant to Public Resources Code Section 21000, et seq. and the State CEQA Guidelines (California Code of Regulations Section 15000, et seq.). Specifically, the preparation of an Initial Study is guided by Section 15063 of the State CEQA Guidelines. This format of the study is presented as follows. The project is evaluated based on its effect on 18 major categories of environmental factors. Each factor is reviewed by responding to a series of questions regarding the impact of the project on each element of the overall factor. The Initial Study checklist provides a formatted analysis that provides a determination of the effect of the project on the factor and its elements. The effect of the project is categorized into one of the following four categories of possible determinations:

| | | | |
|--------------------------------|--|-----------------------|-----------|
| Potentially Significant Impact | Less than Significant With Mitigation Incorporated | Less than Significant | No Impact |
|--------------------------------|--|-----------------------|-----------|

Substantiation is then provided to justify each determination. One of the four following conclusions is then provided as a summary of the analysis for each of the major environmental factors.

1. **No Impact:** No impacts are identified or anticipated and no mitigation measures are required.
2. **Less than Significant Impact:** No significant adverse impacts are identified or anticipated and no mitigation measures are required.
3. **Less than Significant Impact with Mitigation Incorporated:** Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as a condition of project approval to reduce these impacts to a level below significant. The required mitigation measures are: (List of mitigation measures)
4. **Potentially Significant Impact:** Significant adverse impacts have been identified or anticipated. An Environmental Impact Report (EIR) is required to evaluate these impacts, which are (List of the impacts requiring analysis within the EIR).

At the end of the analysis the required mitigation measures are restated and categorized as being either self- monitoring or as requiring a Mitigation Monitoring and Reporting Program.

ENVIRONMENTAL FACTORS POTENTIALLY AFFECTED:

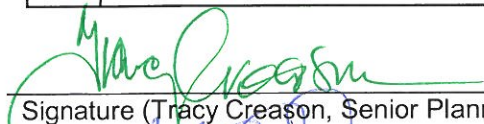
The environmental factors checked below will be potentially affected by this project, involving at least one impact that is a "Potentially Significant Impact" as indicated by the checklist on the following pages.

- | | | |
|---|---|---|
| <input type="checkbox"/> Aesthetics | <input type="checkbox"/> Agriculture and Forestry Resources | <input type="checkbox"/> Air Quality |
| <input type="checkbox"/> Biological Resources | <input type="checkbox"/> Cultural Resources | <input type="checkbox"/> Geology / Soils |
| <input type="checkbox"/> Greenhouse Gas Emissions | <input type="checkbox"/> Hazards & Hazardous Materials | <input type="checkbox"/> Hydrology / Water Quality |
| <input type="checkbox"/> Land Use/ Planning | <input type="checkbox"/> Mineral Resources | <input type="checkbox"/> Noise |
| <input type="checkbox"/> Population / Housing | <input type="checkbox"/> Public Services | <input type="checkbox"/> Recreation |
| <input type="checkbox"/> Transportation / Traffic | <input type="checkbox"/> Utilities / Service Systems | <input type="checkbox"/> Mandatory Findings of Significance |

DETERMINATION: (To be completed by the Lead Agency)

On the basis of this initial evaluation, the following finding is made:

| | |
|-------------------------------------|--|
| <input type="checkbox"/> | The proposed project COULD NOT have a significant effect on the environment, and a NEGATIVE DECLARATION shall be prepared. |
| <input checked="" type="checkbox"/> | Although the proposed project could have a significant effect on the environment, there shall not be a significant effect in this case because revisions in the project have been made by or agreed to by the project proponent. A MITIGATED NEGATIVE DECLARATION shall be prepared. |
| <input type="checkbox"/> | The proposed project MAY have a significant effect on the environment, and an ENVIRONMENTAL IMPACT REPORT is required. |
| <input type="checkbox"/> | The proposed project MAY have a "potentially significant impact" or "potentially significant unless mitigated" impact on the environment, but at least one effect 1) has been adequately analyzed in an earlier document pursuant to applicable legal standards, and 2) has been addressed by mitigation measures based on the earlier analysis as described on attached sheets. An ENVIRONMENTAL IMPACT REPORT is required, but it must analyze only the effects that remain to be addressed. |
| <input type="checkbox"/> | Although the proposed project could have a significant effect on the environment, because all potentially significant effects (a) have been analyzed adequately in an earlier EIR or NEGATIVE DECLARATION pursuant to applicable standards, and (b) have been avoided or mitigated pursuant to that earlier EIR or NEGATIVE DECLARATION, including revisions or mitigation measures that are imposed upon the proposed project, nothing further is required. |


Signature (Tracy Creason, Senior Planner)


Signature: (Heidi Duron, Supervising Planner)
Land Use Services Department/Planning Division

17 APR 2014
Date

4/18/2014
Date

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|--------------------------|
| I. AESTHETICS - Will the project | | | | |
| a) Have a substantial adverse effect on a scenic vista? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Substantially damage scenic resources, including but not limited to trees, rock outcroppings, and historic buildings within a state scenic highway? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Substantially degrade the existing visual character or quality of the site and its surroundings? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Create a new source of substantial light or glare, which will adversely affect day or nighttime views in the area? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION: (Check ☐ if project is located within the view-shed of any Scenic Route listed in the General Plan):

- a) **Less than Significant Impact.** General Plan Open Space Element Policy OS 5.1. states that a feature or vista can be considered scenic if it:
- Provides a vista of undisturbed natural areas,
 - Includes a unique or unusual feature that comprises an important or dominant portion of the viewshed, or
 - Offers a distant vista that provides relief from less attractive views of nearby features (such as views of mountain backdrops from urban areas).

The site is within an unincorporated area of Apple Valley. The site vicinity consists largely of rural residential development interspersed with vacant land. Other land uses include commercial and institutional facilities, paved roadways, and powerlines. The site is not part of a vista of natural areas, as surrounding areas are generally flat and intervening landscapes and manmade structures limit views. More distant vistas from higher-elevation areas in the San Bernardino National Forest (6 miles to the south) are not significantly impacted due to the low height of the proposed solar panels and other project features. As such, views of undisturbed natural areas are not significantly affected by the project.

The project site is vacant and flat, with no landforms of note. There are no unique or unusual features on the site that could dominate views of the area. Therefore, there are no unique or unusual features on the site that could comprise an important or dominant position in the viewshed.

Finally, the site does not offer distant vistas that provide relief from less attractive nearby features. The proposed project would directly alter the existing view of the project site from adjacent uses and roadways by developing about 22 acres of vacant land with solar panels and ancillary equipment. However, the site is flat and contains no significant geological or vegetation features that could be considered scenic. The solar equipment on site, consisting of solar panels and associated electrical equipment, would maintain a low profile – generally

up to 11 feet in height. Other project features would include access drives and chainlink fencing. None of the proposed onsite equipment would obstruct any viewsheds in the area.

For the reasons described above, impacts related to a substantial adverse effect on a scenic vista are less than significant.

- b) **Less than Significant Impact.** The proposed project would not damage scenic resources, including those within a designated scenic highway. There are no State-designated scenic routes in the project vicinity and there are no scenic or historic resources onsite. Although undeveloped, there are no large trees or natural rock outcroppings onsite. The vegetation on the site and along the perimeter is sparse and is not unique to the immediate area and therefore is not a scenic resource.

SR-18, located 3.5 miles southwest of the project site, is depicted on the General Plan's Open Space Element Map as a County-designated scenic route. Due to the substantial distance of the site from this roadway, the flat topography of the area, and the low height of project facilities, the project site would not be visible from the highway. Therefore, the project would have a less than significant impact related to substantial damage to scenic resources within a state scenic highway.

- c) **Less than Significant Impact.** Implementation of the proposed project would alter the existing visual character of the project site. Proposed project facilities have heights which are similar to or lower than those of existing development in the Apple Valley area, including single-family residences and powerlines. The proposed project would have a low profile (with a typical height of up to 11 feet for solar panels) and minimal lighting and, therefore, would not substantially degrade the existing visual character or quality of the site and its surroundings. The current visual character of the project site consists of flat lands surrounded by sparse rural residential development, and vegetation communities such as creosote bush scrub and Joshua tree woodland. There is some evidence of human disturbance on the site, including trash deposits concentrated on the western portion of the site along Central Road.

Photographs of typical solar PV power plant facilities are provided in **Figure 6**. While the precise design of panel systems varies by manufacturer and model, and is subject to modification as technologies evolve, these figures provide an accurate indication of the systems that would be used on the project site. Panels and associated onsite equipment would have a profile much lower than that of a single-story building.

As shown in the representative photographs, the proposed project facilities have heights which are similar to or lower than those of existing development in the Apple Valley area, including single-family residences and other one-story structures. The proposed project would have a low profile (with a typical height of up to 11 feet for solar panels) and incorporate substantial setbacks that exceed minimum standards.

This analysis of aesthetics impacts relies in part on visual simulations of the proposed project. The project's viewshed, which extends approximately two miles from the site boundary, includes areas up to 1,000 feet higher in elevation. However, due to the low profile of site facilities, the project facilities would be most visible from adjacent properties

and roadways. Views of the project facilities from more than a half mile away would be interrupted by existing development.

The viewpoints used in the simulations are mapped on **Figure 7**. **Figure 8a** shows the pre-development view from Viewpoint Location #1, on Tussing Ranch Road about midway along the northern edge of the site. This viewpoint best represents views from areas to the north, including a residence on the opposite side of Tussing Ranch Road from the project site, which has chain link fencing surrounding the property.

The pre-development viewpoint shows manmade modifications including a dirt road in the foreground and residences, roads, powerlines, and ornamental vegetation in the background. A simulation of the proposed project is provided in **Figure 8b**. This view is more severe than any that would be experienced from local residences, as the nearest home to the north is 100 feet further away from the site than the Viewpoint Location. The view shows solar panels and fencing covering the site, with a gap in the center where the existing drainage is preserved. The impact is reduced by a setback area where desert vegetation is preserved, as well as by the relocation of selected Joshua trees from within the project site to its perimeter. Due to the low height of project facilities, no structures would stand out on the horizon or significantly modify the landscape. Long-distance views to hills in the south are preserved. Overall, the simulation reveals that the project would be clearly visible from nearby viewpoints in the project's viewshed, but would not be a significant or overwhelming presence in the broader landscape.

Figure 9a shows the pre-development view from Viewpoint Location #2, located about 250 feet east of the site on Tussing Ranch Road. This viewpoint best represents views from scattered residences beyond the immediate border of the site. Due to the flat nature of the site, views from all directions would be similar. The pre-development view shows existing improvements including a dirt road and powerlines. A simulation of the proposed project is provided in **Figure 9b**. Due to the low height of the proposed facilities, the project from this viewpoint would be only a minor element in the viewshed.

Overall, the project would be similar in scale to existing development, and would largely be hidden from view of adjacent residences by natural vegetation common to the area. This vegetation screens the project site from view and would have a less than significant impact on visual character when viewed from local residences. With approval of the CUP, the proposed project would be consistent with the County's zoning requirements and development standards relative to the setbacks and height of the project. The proposed project would not have a substantial adverse effect on the visual character or quality of the site or its surroundings; impacts would be less than significant and no mitigation is required.

FIGURE 6: Typical Views of Solar Fields



Apple Valley East Solar
Initial Study/Mitigated Negative Declaration

Figure 6
Typical Solar Photovoltaic Power Plant Facilities

FIGURE 7: Viewshed Map

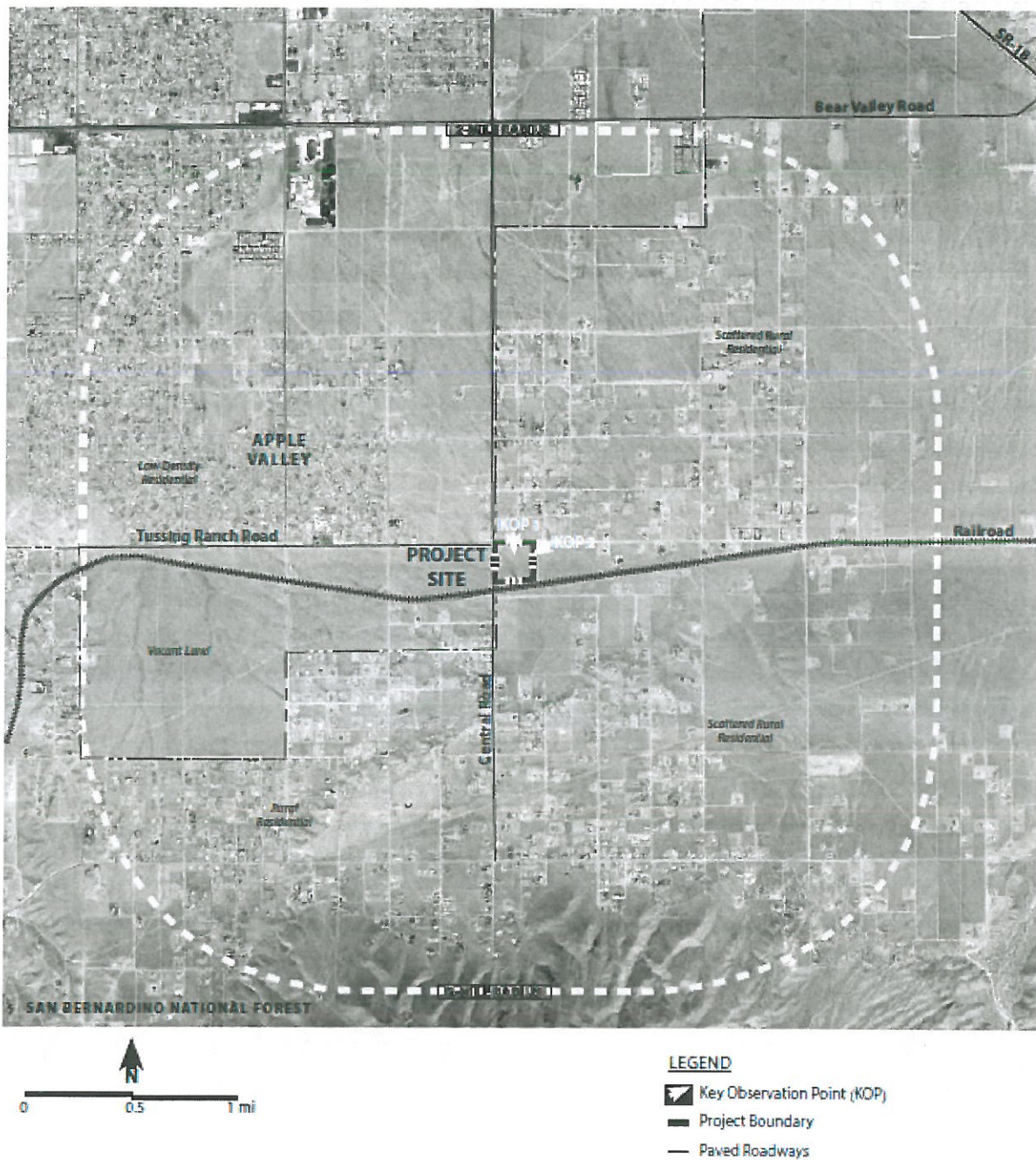


Figure 7
Viewshed Map

FIGURE 8a/b: Photo Simulations – Location 1



Figure 8a LOCATION 1: Existing view looking south from Tussing Ranch Road, midway along the site.



Figure 8b LOCATION 1: Simulated view looking south from Tussing Ranch Road, midway along the site.

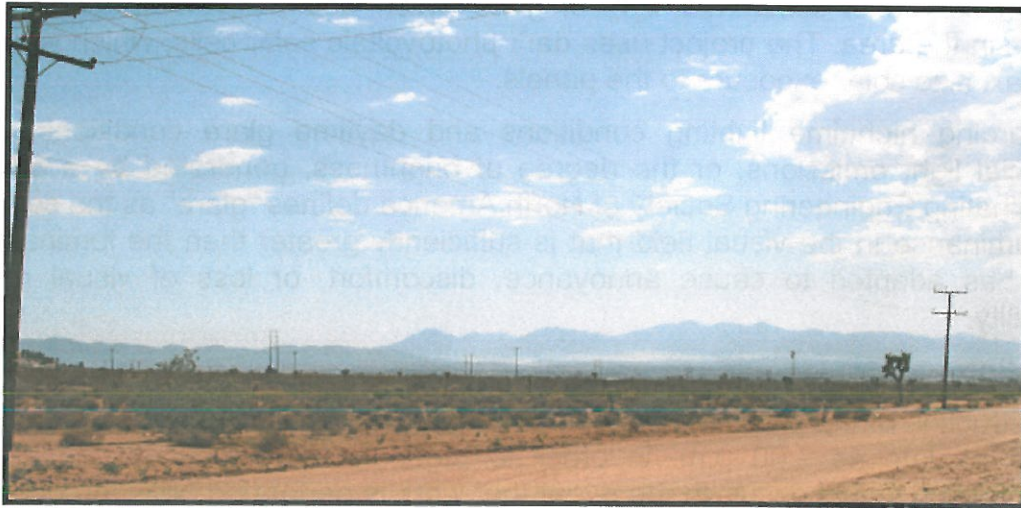


Figure 9a LOCATION 2: Existing view looking southwest from Tussing Ranch Road, about 250 feet east of the site.



Figure 9b LOCATION 2: Simulated view looking southwest from Tussing Ranch Road, about 250 feet east of the site.

- d) **Less than Significant Impact with Mitigation Incorporated.** The project would not create a new source of substantial light or glare which would adversely affect day or nighttime views in the area. The project uses dark photovoltaic solar cells, which would track the sun to maximize solar exposure to the panels.

Regarding nighttime lighting conditions and daytime glare conditions, “light” refers to artificial light emissions, or the degree of brightness, generated by a given source. The Illuminating Engineering Society of North America defines “glare” as the sensation produced by luminance in the visual field that is sufficiently greater than the luminance to which the eye has adapted to cause annoyance, discomfort, or loss of visual performance and visibility.

Lighting

Construction of the proposed project would generally occur during daytime hours, and could occur as late as 7:00 p.m. in order to meet the construction schedule. No overnight construction would occur. In the event that work is performed between dusk and 7:00 p.m., the construction crew would only use the minimum illumination needed to perform the work safely. All lighting would be directed downward and shielded to focus illumination on the desired work areas only, and to prevent light spillage onto adjacent properties. As applicable, work in the solar field areas and on the distribution lines at night would be performed using battery or gas-powered light stands that would be directed to the active work area. Because lighting would be shielded and focused downward and lighting used to illuminate work areas would be turned off by 7:00 p.m., the potential for lighting to adversely impact any residents is minimal. As a result, the project would not be anticipated to adversely impact nighttime views in the project area.

As described under “Project Features,” above, the proposed project would include manually controlled lights at equipment pads. No other lighting is planned. Cutoffs would be employed to prevent spillover onto neighboring properties. If improperly designed or oriented, such lighting may result in light trespass that falls outside the boundaries of the project site. Under particularly adverse conditions, spillover lighting causes annoyance, discomfort, or loss in visual performance because of its intensity, direction, or source type and visibility.

Impacts resulting from lighting would be minimized through compliance with all development standards, Zoning Ordinance standards, and the goals, policies, and implementation measures of the General Plan. San Bernardino County Ordinance No. 3900 regulates glare, outdoor lighting, and night sky protection. Nighttime lighting associated with the proposed project would be subject to County approval and compliance with San Bernardino County requirements. Lighting would be directed toward the ground from low elevation poles (less than 14 feet in height). All lights would be shielded so that there is no upward directed light. In addition, the implementation of Mitigation Measure AES-1 would minimize the potential for spillover lighting to adversely affect residents and motorists. With implementation of the standard conditions discussed above, as well as Mitigation Measure AES-1, the project would not have substantial adverse impacts related to lighting; impacts would be less-than-significant.

Glare

Most of the project's construction activities are planned to occur during daylight hours. Increased truck traffic and the transport of the solar arrays and construction materials to the project site would temporarily increase glare conditions during construction. However, this increase in glare would be minimal and temporary. Construction activity would occur on focused areas of the site as construction progresses and any sources of glare would not be stationary for a prolonged period of time. Additionally, the surface area of construction equipment would be minimal compared to the scale of the project site. Therefore, construction of the proposed project would not create a new source of substantial glare that would affect daytime views in the area. Impacts would be less than significant during the construction period.

During operations, the reflection of sunlight would be the primary potential producer of glare off the glass surfaces of the solar panels in the proposed project.

A solar panel comprises numerous solar cells. A solar cell differs from a typical reflective surface in that it has a microscopically irregular surface designed to trap the rays of sunlight for the purposes of energy production. The intent of solar technology is to increase efficiency by absorbing as much light as possible (which further reduces reflection and glare). **Figure 10** shows how the direction of the small amount of energy which would be reflected.

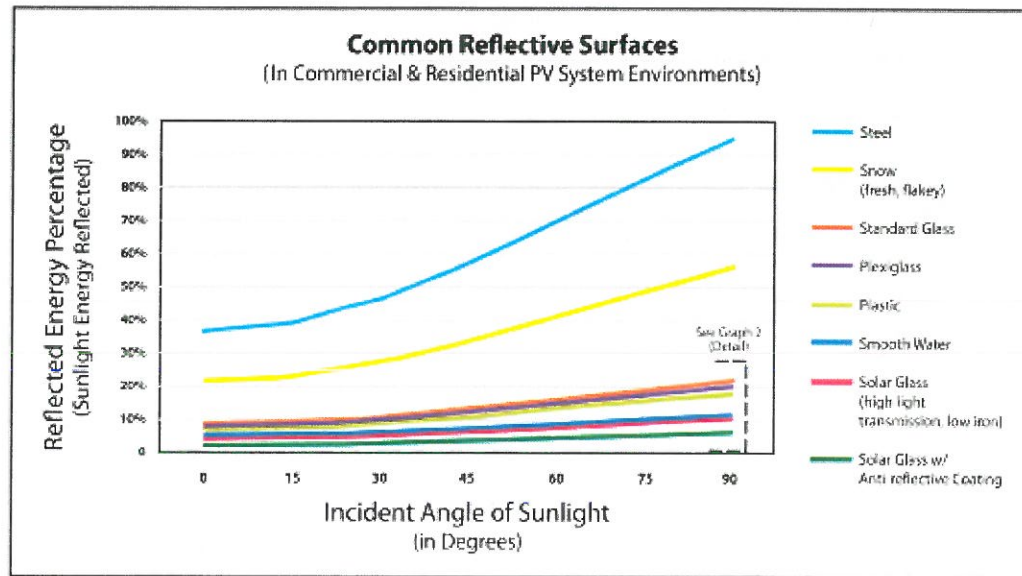
As described in under "Project Features," above, some or all of the project's panels could be mounted on trackers. Trackers allow the panels to follow the sun in its path from east to west across the southern sky as the day progresses. These devices orient the solar panels perpendicular to the incident solar radiation, thereby maximizing solar cell efficiency and potential energy output. Some of these tracking devices use GPS, which enables the tracking to be extremely accurate, and are capable of positioning the array so that the incident rays would be at or very near a surface normal (perpendicular angle). During midday conditions, when the sun is high in the sky, the law of reflection indicates that the reflected ray would be at an equally low angle and reflected in a direction toward the light source or back into the atmosphere away from receptors on the ground. When the sun is low on the horizon (near dawn or dusk), the sun's angle in the sky is low; however, reflected rays would still be directed away from ground-level receptors.

The panels would not be expected to cause extreme visual discomfort or impairment of vision for residents because the panels are designed to absorb as much sunlight as possible and therefore would have minimal reflectivity. The type of glare that could be expected in the most extreme conditions, when the sun is low in the sky, is a level of veiling reflection that may cause viewers to be less able to distinguish levels of contrast, but not cause a temporary loss of vision. Additionally, for most residents, glare effects would be further reduced by intervening elements in the immediate viewshed, such as vegetative screening created existing vegetation, and other homes or structures, which would obstruct views of the panels. Therefore, the proposed project would result in less-than-significant impacts related to glare for residences in the project vicinity.

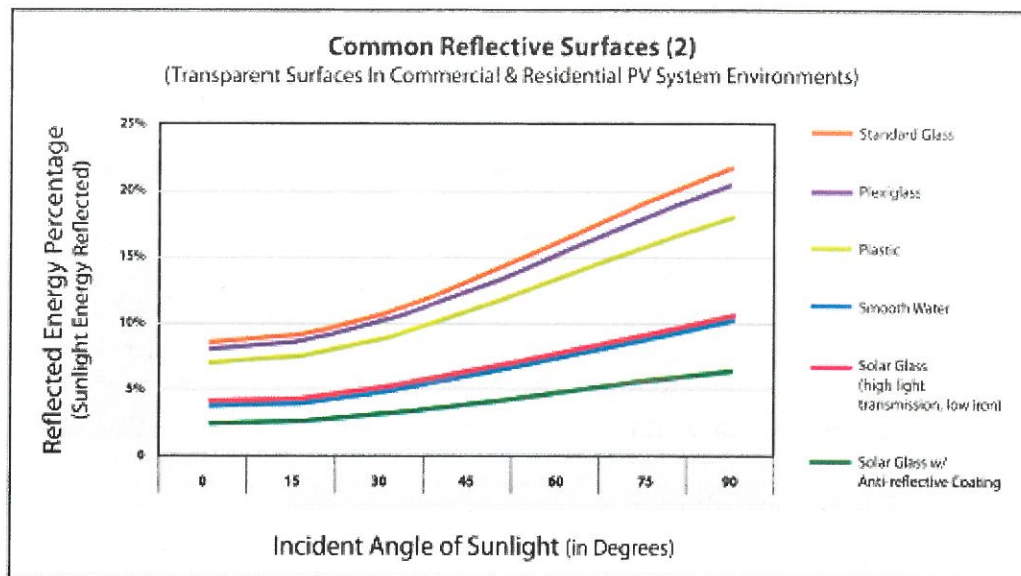
Similarly, and also due to their low reflectivity, the panels would not be expected to cause

visual impairment for motorists on area roadways. Effects on eastbound motorists would likely be greatest in the early evening hours, when the sun is at its lowest arc in the western horizon. Glare would have its greatest impact on westbound travelers in the early morning hours, when the sun is rising in the east. Nonetheless, regardless of their position relative to the sun and the time of day, the panels would not be expected to cause visual impairment for motorists. Mitigation Measure AES-2 requires panels to incorporate anti-reflective and diffusion coating technologies that would reduce fugitive glare and spectral highlighting and increase the efficiency of the electrical-generation facility. With the implementation of this mitigation measure, impacts to motorists from glare are further reduced. The proposed project would result in less-than-significant impacts related to glare affecting motorists.

FIGURE 10: The Law of Reflection and Its Application to Solar Panels

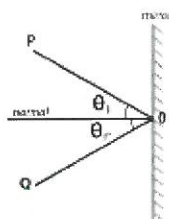


Graph 1 - Common Spectral Surfaces
Source: SunPower 2008



Graph 2 - (Detail) Common Spectral Surfaces with Highly Spectral Surfaces Removed
Source: SunPower 2008

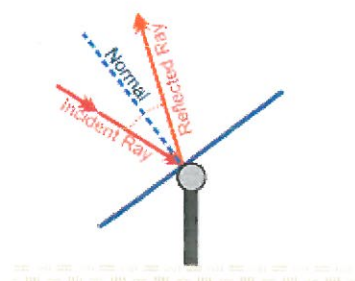
Figure 10
Spectral Surfaces and their Reflective Properties at Incident Light Angles



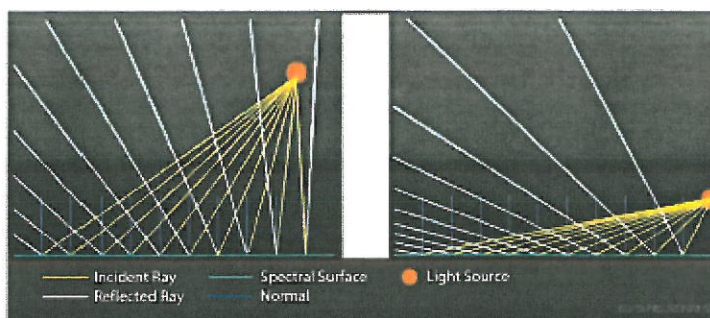
The Law of Reflection - which states that the direction of incoming light (the incident ray), and the direction of outgoing light reflected (the reflected ray) make the same angle with respect to the surface normal (perpendicular to the reflecting surface), thus the angle of incidence equals the angle of reflection; this is commonly stated as $\theta_i = \theta_r$.



Incident and reflected rays of light that would result from an optimally oriented solar panel on a variable tilt single axis tracking mechanism.



Incident and reflected rays of light that would result from the fixed tilt single axis tracker array.



This diagram illustrates how the angle of the reflected ray reacts to a light source moving to a lower horizontal azimuth. The conditions in the right illustration would increase the possibility of glare to a terrestrial-based viewer.

Because of the inherently low reflectivity of PV panels and with implementation of Mitigation Measures AES-1 and AES-2, in addition to compliance with the standards of the Zoning Ordinance, General Plan, and Development Standards of San Bernardino County, glare impacts would be less-than-significant.

Significance: Possible significant adverse impacts have been identified or are anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:

AESTHETICS MITIGATION MEASURES:

AES-1 *Lighting Requirements.* The area of illumination from any lighting will be confined to within the site boundaries to minimize impacts to night sky views from surrounding properties. On-site lighting will be fully shielded, diffused, or directed in a manner to avoid glare directed at adjacent properties, roadways or any light spill into any wildland areas surrounding the site that might affect nocturnal animals. No light will project onto adjacent roadways in a manner that interferes with on-coming traffic. All lighting will be limited to that necessary for maintenance activities, security, and safety purposes. All signs proposed by this project will only be lit by steady, stationary, shielded light directed at the sign, by light inside the sign or by direct stationary neon lighting.

AES-2 *Anti-Reflective/Diffusion Coatings.* Solar panels and hardware shall be designed to minimize glare and spectral highlighting. To the extent feasible, emerging technologies shall be utilized that introduce diffusion coatings and nanotechnological innovations that will effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient at converting incident sunlight into electrical power, but have the tertiary effect of reducing the amount of light that escapes into the atmosphere in the form of reflected light, which would be the potential source of glare and spectral highlighting. The developer shall submit for review and gain approval of technical specifications for the proposed coatings or other proposed methods to reduce glare and spectral highlighting prior to issuance of building permits.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|--------------------------------------|---|--------------------------|-------------------------------------|
| II. AGRICULTURE AND FORESTRY RESOURCES - In determining whether impacts to agricultural resources are significant environmental effects, lead agencies may refer to the California Agricultural Land Evaluation and Site Assessment Model (1997) prepared by the California Dept. of Conservation as an optional model to use in assessing impacts on agriculture and farmland. In determining whether impacts to forest resources, including timberland, are significant environmental effects, lead agencies may refer to information compiled by the California Department of Forestry and Fire Protection regarding the state's inventory of forest land, including the Forest and Range Assessment Project and the Forest Legacy Assessment project; and forest carbon measurement methodology provided in Forest Protocols adopted by the California Air Resources Board. Will the project: | | | | |
| a) Convert Prime Farmland, Unique Farmland, or Farmland of Statewide Importance (Farmland) as shown on the maps prepared pursuant to the Farmland Mapping and Monitoring Program of the California Resources Agency, to non-agricultural use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with existing zoning for agricultural use, or a Williamson Act contract? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with existing zoning for, or cause rezoning of, forest land (as defined in Public Resources Code section 12220(g)), timberland (as defined by Public Resources Code section 4526), or timberland zoned Timberland Production (as defined by Government Code section 51104(g))? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Result in the loss of forest land or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland, to non-agricultural use or conversion of forest land to non-forest use? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION: (Check ☐ if project is located in the Important Farmlands Overlay):

- a) **No Impact.** The Farmland Mapping and Monitoring Program of the California Department of Conservation is charged with mapping Prime Farmland, Unique Farmland, Farmland of Statewide Importance, and Farmland of Local Importance (Farmland) across the state. The project would not convert Farmland, as shown on the FMMP maps, to non-agricultural use,

since the proposed project site is not designated as such. There is no impact and no further analysis is warranted.

- b) **No Impact.** The proposed project would not conflict with existing zoning for agricultural use, or a Williamson Act contract. The current General Plan land use designation for the project area is RL, which allows the development of renewable energy generation facility with a CUP (Development Code Section 82.04). The proposed project area is not under a Williamson Act contract. There is no impact and no further analysis is warranted.
- c) **No Impact.** The proposed project would not conflict with existing zoning for, or cause rezoning of, forest land, timberland, or timberland zoned Timberland Production. The proposed project area is currently vacant land, which has never been designated as forest land or timberland. No rezoning of the project site would be required as the proposed energy facility is compatible with the current zoning designation of RL. There is no impact and no further analysis is warranted.
- d) **No Impact.** The proposed project would not result in the loss of forest land or conversion of forest land to non-forest use. The proposed project site is vacant and covered with desert vegetation. There is no impact and no further analysis is warranted.
- e) **No Impact.** The proposed project would not involve other changes in the existing environment which, due to their location or nature, could result in conversion of Farmland to non-agricultural use. The current General Plan land use designation for the project area is RL, which allows the development of renewable energy generation facility with a CUP (Development Code Section 82.04). There is no impact and no further analysis is warranted.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|--------------------------------------|---|-------------------------------------|--------------------------|
| III. AIR QUALITY - Where available, the significance criteria established by the applicable air quality management or air pollution control district might be relied upon to make the following determinations. Will the project: | | | | |
| a) Conflict with or obstruct implementation of the applicable air quality plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Violate any air quality standard or contribute substantially to an existing or projected air quality violation? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a cumulatively considerable net increase of any criteria pollutant for which the project region is non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Expose sensitive receptors to substantial pollutant concentrations? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Create objectionable odors affecting a substantial number of people? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION: (Discuss conformity with the Mojave Air Quality Management Plan, if applicable):

- a) **Less than Significant Impact.** Giroux & Associates prepared an Air Quality Impact Analysis (AQIA) for the project in December 2013. The AQIA evaluates emissions from construction and operations, focusing on criteria air pollutants, hazardous emissions, and greenhouse gases (GHG). The full report, with baseline emissions data, analysis methodologies and emissions modeling output, is included as Appendix A.

A project is considered non-conforming if it conflicts with or delays implementation of any applicable attainment or maintenance plan. A project is conforming if it complies with all applicable MDAQMD rules and regulations, complies with all proposed control measures that are not yet adopted from the applicable plan(s), and is consistent with the growth forecasts in the applicable plan(s) (or is directly included in the applicable plan). Conformity with growth forecasts can be established by demonstrating that the project is consistent with the land use plan that was used to generate the growth forecast.

The proposed project would not conflict with or obstruct implementation of the applicable air quality plan. The project site is in the Victor Valley portion of the Mojave Desert Air Basin (MDAB) and under the air quality planning jurisdiction of the MDAQMD. The Victor Valley area is designated “non-attainment” for State and federal ambient air quality standards (AAQS) for ozone (O₃) and inhalable particulate matter (PM-10).

From 2008 to 2012, the O₃ standards were exceeded up to 59 days per year at the Victorville monitoring station, while PM-10 standards were exceeded on a maximum of two days per year. PM-2.5 thresholds have not been exceeded in recent years, but the region

formally remains in non-attainment for this pollutant. The MDAQMD has two Attainment Plans in effect to address O₃ and PM-10, respectively: the *MDAQMD 2004 Ozone Attainment Plan* and the *Mojave Desert Planning Area Federal Particulate Matter (PM10) Attainment Plan (1995)*. These plans provide programs for obtaining “attainment” status for those monitored air pollution standards. The Attainment Plans base existing and future air pollution emissions on employment and residential growth projections, as derived from local and regional land use plans and other projections. According to the MDAQMD’s *CEQA and Federal Conformity Guidelines (2007)*, a project is deemed to not conflict with an Attainment Plan if it is consistent with the existing land use plan. While the proposed project is not specifically identified in the General Plan, it would not generate new homes or significant permanent employment opportunities that would change the County’s projections, and the proposed land use is conditionally permitted within the existing RL (Rural Living) land use zoning designation.

Attainment of ozone standards is most strongly linked to air quality improvements in upwind communities; the AQIA attributes the majority of ozone pollution in the MDAB to sources outside the air basin. PM-10 and PM-2.5, however, is affected by construction, unpaved road travel, open fires and/or agricultural practices. Therefore, in order to limit the production of fugitive dust during implementation of the proposed project, construction activities would be conducted in accordance with MDAQMD Rules 403 - *Fugitive Dust* and 403.2 - *Fugitive Dust Control for the Mojave Desert Planning Area*. This includes using water trucks to minimize the production of visible dust emissions to 20 percent opacity in areas of where grading or vegetation removal occurs, within the staging areas, and on any unpaved roads utilized during project construction.

Over its lifetime, the proposed project would not violate the regulations set forth by the MDAQMD *Rule Book* or *CEQA and Federal Conformity Guidelines*. Electricity generation via the use of photovoltaic systems does not generate chemical emissions that would negatively contribute to air quality. The proposed project is designed to limit the amount of vegetation that would be removed and grading required for access, which would limit fugitive dust generated during the life of the project.

Given that the proposed project would not alter the population or employment projections considered during the development of the AQMP, and considering the minor emissions attributable to the proposed project during operation (refer to discussion in Item III.b below), impacts associated with AQMP consistency would be less than significant.

- b) **Less than Significant Impact with Mitigation Incorporated.** The proposed project would not violate any air quality standard or contribute substantially to an existing or projected air quality violation. Air quality impacts would include construction exhaust emissions generated from diesel- and gasoline-powered equipment construction equipment, vegetation clearing, grading, construction worker commuting, and construction material deliveries (including the delivery of solar panels from out-of-state locations). Fugitive dust emissions include particulate matter and are a potential concern because the project is in a non-attainment area for PM-10 and PM-2.5, as well as ozone.

The AQIA calculated on-site grading and construction equipment emissions and

construction crew commuting and truck delivery emissions using the CalEEMod computer model (version 2013.2.2). The EMFAC2011 program was used for estimating emissions from on-road vehicles during operations. The AQIA uses the following MDAQMD-adopted numerical emissions thresholds as indicators of potential impacts:

| | | |
|------------------------------------|----------------|---------------|
| Carbon Monoxide (CO) | 548 pounds/day | 100 tons/year |
| Nitrogen Oxides (NO _x) | 137 pounds/day | 25 tons/year |
| Sulfur Oxides (SO _x) | 137 pounds/day | 25 tons/year |
| Reactive Organic Gases (ROG) | 137 pounds/day | 25 tons/year |
| Particulate Matter (PM-10) | 82 pounds/day | 15 tons/year |
| Particulate Matter (PM-2.5) | 82 pounds/day | 15 tons/year |

Following is a summary of the AQIA's construction equipment fleet assumptions and emissions calculations for both phases of construction activity.

Phase 1: Site Preparation and Grading, 1.5-Month Duration

- 1 Dozer
- 2 Loaders/backhoes
- 2 Graders
- 1 Water truck
- 10 Construction worker vehicles
- 38 truck deliveries per day (20 miles round trip)

Phase 2: Equipment Installation and Distribution Lines, 2.5-Month Duration

- 3 Trenchers
- 3 Welders
- 2 Rough Terrain Forklifts
- 1 Generator Set
- 2 Loaders/Backhoes
- 25 Construction worker vehicles
- 10 Truck deliveries per day (20 miles round trip)
- 10 Truck deliveries per day (100 miles round trip) – solar panels

The AQIA determined all criteria pollutants generated by the project would be well below their respective thresholds (see Tables 5 and 6 of the AQIA for detailed emissions calculations). In compliance with MDAQMD Rule 403, because the region is in non-attainment for particulate matter emissions, the use of Best Available Control Measures (BACMs) is required even if a project does not exceed thresholds. BACMs for the project consist of enhanced dust control mitigation measures (see Mitigation Measure AQ-2); with these measures, PM-10 and PM-2.5 emissions would be reduced by about 40 percent. As noted in Item III.a above, all required dust abatement measures would be consistent with

MDAQMD Rule 403.2 - *Fugitive Dust Control for the Mojave Desert Planning Area.*

Mitigation Measures AQ-1 and AQ-3, which describe standard County requirements imposed on conditional use permits, would further ensure that emissions from increased vehicle trips would have less-than-significant air quality impacts.

On both a daily and an annual basis, none of the criteria pollutants would exceed the MDAQMD thresholds (with or without the recommended mitigation). **Tables 3** and **4**, below, provide detailed calculations.

**Table 3. Maximum Daily Construction Activity Emissions (pounds/day)
4.5-month duration**

| Activity | ROG | NO _x | CO | SO ₂ | PM-10 | PM-2.5 |
|-----------------------------|-----|-----------------|------|-----------------|-------|--------|
| Phases 1 and 2 | | | | | | |
| Unmitigated | 7.0 | 57.9 | 41.2 | 0.1 | 12.4 | 6.3 |
| w/Fugitive Dust Mitigation* | 7.0 | 57.9 | 41.2 | 0.1 | 6.9 | 4.1 |
| MDAQMD Threshold | 137 | 137 | 548 | 137 | 82 | 82 |
| Exceeds Threshold? | No | No | No | No | No | No |

Source: Giroux & Associates, 2013.

*enhanced fugitive dust control measures are incorporated into Mitigation AQ-2.

**Table 4. Construction Activity Emissions (tons/year)
4.5-month duration**

| Activity | ROG | NO _x | CO | SO ₂ | PM-10 | PM-2.5 |
|-----------------------------|------|-----------------|------|-----------------|-------|--------|
| Phases 1 and 2 | | | | | | |
| Unmitigated | 0.25 | 2.25 | 1.59 | 0.00 | 0.31 | 0.19 |
| w/Fugitive Dust Mitigation* | 0.25 | 2.25 | 1.59 | 0.00 | 0.23 | 0.16 |
| MDAQMD Threshold | 25 | 25 | 100 | 25 | 15 | 15 |
| Exceeds Threshold? | No | No | No | No | No | No |

Source: Giroux & Associates, 2013.

*enhanced fugitive dust control measures are incorporated into Mitigation Measure AQ-2.

The project would generate negligible air emissions during operations because the facility would be automated and would require minimal onsite personnel. Periodic repairs, equipment cleaning, and site monitoring would be conducted, but no permanent staff would be onsite. Solar panels and associated equipment would have an operating life of several decades; therefore, replacement of panels would be very infrequent. The solar panels may

be cleaned twice annually, requiring a work crew and light trucks (5 or fewer vehicles). Maintenance and security personnel would visit the site regularly (generally, every few days). For a conservative estimate, the AQIA assumes one visit per day to the site. Based on these factors, operational traffic associated with the project would be minimal.

The AQIA used those factors and commuting distances to calculate operational emissions for cleaning and security. **Table 5**, below, depicts annual operational activity emissions. The table shows that operational emissions are negligible. All criteria pollutants would be less than one percent of their respective MDAQMD daily and annual thresholds and are less than significant. No mitigation is necessary for operational air emissions.

Following the termination of operations, decommissioning activities, as discussed in the Project Overview section above, would result in ground-disturbing activities similar to those occurring during construction, but would be of a significantly shorter duration. Activities would include the removal and recycling of solar panels and associated equipment, and the restoration of disturbed soil and revegetation of the site with native vegetation. Accordingly, the emissions and applicable control strategies for decommissioning would be similar to those for construction.

Table 5. Operational Activity Emissions (tons/year)

| Activity | ROG | NO _x | CO | SO ₂ | PM-10 | PM-2.5 |
|--|-------|-----------------|-------|-----------------|-------|--------|
| Cleaning, Security, and Maintenance | | | | | | |
| 1 site visit per day, 50-mile round trip | 0.003 | 0.009 | 0.084 | 0.000 | 0.000 | 0.000 |
| MDAQMD Threshold | 25 | 25 | 100 | 25 | 15 | 15 |
| Exceeds Threshold? | No | No | No | No | No | No |

Source: Giroux & Associates, 2013.

Based on the above analysis, project construction and operations would neither violate any air quality standard nor contribute substantially to an existing or projected air quality violation. Mitigation Measures AQ-1 through AQ-3 are required to achieve compliance with regional air quality regulations and the County's CUP implementation requirements. With application of these mitigation measures, impacts are less than significant.

- c) **Less than Significant Impact.** The proposed project would not result in a cumulatively considerable net increase of any criteria pollutant for which the project region is in non-attainment under an applicable federal or state ambient air quality standard (including releasing emissions which exceed quantitative thresholds for ozone precursors). As previously discussed in Items III.a and III.b, the project's contribution to criteria pollutants during the temporary construction period would be localized and mitigated to below a level of significance. As also indicated, operational activities would generate insubstantial

quantities of air pollutants that are not deemed cumulatively considerable. Since no other sources of potential long-term air emissions would result, impacts would be less than significant.

- d) **Less than Significant Impact.** The proposed project would not expose sensitive receptors to substantial pollutant concentrations (see Items III.a through III.c regarding criteria pollutants). The project's construction and operations would not result in any significant air pollutant emissions, and nearby sensitive receptors (consisting of residences) would not be significantly impacted by such emissions.

With regard to potentially hazardous air emissions, electricity generation via the use of photovoltaic systems does not generate chemical emissions that would negatively affect air quality. Small amounts of hazardous air pollutants are contained in the diesel exhaust of the construction equipment to be used to prepare the site and install the solar panels. Diesel exposure risk is calculated based on a 70-year lifetime with the receptor located outdoors permanently. Resident exposure to construction equipment exhaust emissions will only be for several months. The combination of limited exhaust particulate emissions, brief resident exposure and generally good daytime desert dispersion conditions renders hazardous emissions impacts as less-than-significant.

For those reasons, impacts are less than significant and an assessment of potential human health risks attributable to emissions of hazardous air pollutants is not required.

- e) **Less than Significant Impact.** The proposed project would not create objectionable odors that would affect a substantial number of people. Electricity generation via the use of photovoltaic systems does not generate emissions that would negatively contribute to air quality or produce objectionable odors. Potential odor generation associated with the proposed project would be limited to short-term construction sources such as diesel exhaust; however, no significant odor impacts are anticipated due to the short-term duration of such emissions, as well as the intervening distance to sensitive receptors. Odor generation impacts would be less than significant and no further analysis is warranted.

SIGNIFICANCE: Possible significant adverse impacts have been identified or are anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level considered less than significant:

AIR QUALITY MITIGATION MEASURES:

AQ-1 AQ/Operational Mitigation. Operation of all off-road and on-road diesel vehicles/equipment will comply with the County Diesel Exhaust Control Measures [SBCC §83.01.040 (c)], including but not limited to:

- a) Equipment/vehicles will not be left idling for periods in excess of five minutes.
- b) Engines will be maintained in good working order to reduce emissions.
- c) Onsite electrical power connections will be made available where feasible.
- d) Ultra low-sulfur diesel fuel will be utilized.

- e) *Electric and gasoline powered equipment will be substituted for diesel powered equipment where feasible.*
- f) *Signs will be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.*
- g) *All transportation refrigeration units (TRUs) will be provided electric connections.*

AQ-2 AQ/Dust Control Plan. *The developer will prepare, submit, and obtain approval from San Bernardino County Planning of a Dust Control Plan (DCP) consistent with Mojave Desert Air Quality Management District guidelines and a letter agreeing to include in any construction contracts/subcontracts a requirement that project contractors adhere to the requirements of the DCP. The DCP will include the following elements to reduce dust production:*

- a) *Exposed soils and haul roads will be watered three (3) times per day to reduce fugitive dust during all grading/construction activities. Inactive areas will be treated with soil stabilizers such as hay bales or aggregate cover.*
- b) *Street sweeping will be conducted when visible soil accumulations occur along site access roadways to remove dirt dropped by construction vehicles.*
- c) *Site access driveways and adjacent streets will be washed daily, if there are visible signs of any dirt track-out at the conclusion of any workday.*
- d) *Construction vehicle tires will be washed prior to leaving the project site.*
- e) *All trucks hauling dirt away from the site will be covered, and speeds on unpaved roads will be reduced below 15 miles per hour.*
- f) *During high wind conditions (i.e., wind speeds exceeding 25 mph), areas with disturbed soil will be watered hourly and activities on unpaved surfaces will cease until wind speeds no longer exceed 25 mph.*
- g) *Storage piles that are to be left in place for more than three working days will either be sprayed with a non-toxic soil binder, covered with plastic or revegetated.*

AQ-3 AQ – Installation. *The developer will submit for review and obtain approval from County Planning of evidence that all air quality mitigation measures have been installed properly and that specified performance objectives are being met to the satisfaction of County Planning and County Building and Safety.*

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|--|--|--|-------------------------------------|-------------------------------------|
| IV. BIOLOGICAL RESOURCES - Will the project: | | | | |
| a) Have substantial adverse effects, either directly or through habitat modifications, on any species identified as a candidate, sensitive or special status species in local or regional plans, policies, or regulations, or by the California Department of Fish and Game or U.S. Fish and Wildlife Service? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Have a substantial adverse effect on any riparian habitat or other sensitive natural community identified in local or regional plans, policies, and regulations or by the California Department of Fish and Game or US Fish and Wildlife Service? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Have a substantial adverse effect on federally protected wetlands as defined by Section 404 of the Clean Water Act (including, but not limited to, marsh, vernal pool, coastal, etc...) through direct removal, filling, hydrological interruption, or other means? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Interfere substantially with the movement of any native resident or migratory fish or wildlife species or with established native resident or migratory wildlife corridors, or impede the use of native wildlife nursery sites? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) Conflict with any local policies or ordinances protecting biological resources, such as a tree preservation policy or ordinance? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) Conflict with the provisions of an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional or state habitat conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| SUBSTANTIATION: | (Check if project is located in the Biological Resources Overlay or contains habitat for any species listed in the California Natural Diversity Database <input checked="" type="checkbox"/>): Mohave ground squirrel, Desert tortoise, Burrowing owl | | | |

a) **Less than Significant Impact with Mitigation Incorporated.**

Biological Resource Surveys

Phoenix Biological Consulting (Phoenix) conducted general biological investigations of the project site to identify and document any biological resources that might be adversely affected by construction or operation of the project. The Biological Habitat Assessment (BHA) study area included the entire project parcel. Surveys were conducted in December 2012. Additional areas, including buffers, were analyzed as part of focused surveys. Two reports were prepared to document the focused surveys: one report covering desert tortoise, burrowing owl, and rare plants (the Focused Surveys Report), and a second

covering Mohave ground squirrel (the MGS Report).

The purpose of the general survey was to identify potential habitat for any threatened, endangered, or otherwise sensitive plant and wildlife species that may occur in the study areas. Table 3, *Vertebrates Detected During the Site Visit*, and Table 4, *Vascular Plants Detected During the Site Visit*, in the BHA, list all wildlife and plant species, respectively, observed by Phoenix biologists in the study area. Phoenix also identified biological resources by researching plant and wildlife databases and through literature reviews. As a result of the initial surveys, follow-up focused surveys were conducted for several species, as described separately below. The BHA was prepared in January 2013, and the complete report with detailed findings and recommendations is included in Appendix B. In addition, the following reports, with detailed findings and recommendations, are included in Appendix B: Focused Desert Tortoise and Burrowing Owl Protocol Presence/Absence Surveys and Rare Plant Surveys, dated June 2013, and Mohave Ground Squirrel Trapping Results, dated July 2013. The results of all the surveys are summarized as applicable for Items IV.a to IV.f.

Plant Communities

The plant community present throughout the BHA study area is creosote bush scrub, with Joshua tree woodland interspersed. Dominant plant species include creosote, Mohave yucca, Cooper's goldenbush, rabbitbrush, Mormon tea, Six-Weeks Fescue, buckwheats, and cheatgrass. Photographs of on-site plant communities are provided in the BHA, Focused Surveys Report, and MGS Report.

The plant communities discussed above are composed of numerous plant species. Plant species observations and identifications were completed during the field investigations for the BHA study area. Table 4 of the BHA lists all plant species observed in the study area.

Special Status Plants

Sensitive Plant Species

Sensitive plants include those listed, or candidates for listing, by the U.S. Fish & Wildlife Service (USFWS) and California Department of Fish & Wildlife (CDFW), and species considered sensitive by the California Native Plant Society (CNPS) (particularly Lists 1A, 1B, and 2).

The Focused Surveys Report lists 27 rare plants occurring in the vicinity of the project site based on a literature review and records search. Only seven of these species are considered to have any probability of occurrence on the project site: Big bear valley milk-vetch (*Astragalus lentiginosus* var. *sierra*), Parish's daisy (*Erigeron parishii*), and purple nerve cymopterus (*Cymopterus multinervatus*) have all been recorded in gravelly soils in desert scrub habitat, similar to the soils and habitat of the project site; Latimer's woodland gilia (*Saltugilia latimeri*) can occur in washes in desert scrub, similar to the drainage occurring on the site; Booth's evening primrose (*Camissonia boothii*) has been known to occur in Joshua tree woodland, creosote scrub, and sandy washes, all of which are present on the site; and Cushenbury buckwheat (*Eriogonum ovalifolium* var. *vineum*) and pinyon rock cress (*Boechnera dispar*) have potential for presence on site as they have been

recorded in Joshua tree woodland habitats.

No sensitive plant species were observed within the project site during the general biological field investigations or during focused surveys for rare plants. Most rare plants known from the surrounding area lack appropriate habitat at the project site, and would not be expected to occur on the site. The project site is not in a proposed or final critical habitat area for listed plants. For these reasons, there is deemed to be a less-than-significant impact to sensitive plant species, and no mitigation measures are required.

Regulated Plant Species

The San Bernardino County Development Code, Title 8, Chapter 88.01, *Plant Protection and Management*, implements and augments provisions of the California Desert Native Plants Act (California Food and Agricultural Code Section 80000 et seq.), which is intended to regulate the harvesting of desert native plants and require the transplantation of plants from development sites. The County code requires compliance with the Act before the issuance of a development permit or approval of a land use application that would result in removal of the regulated species.

In compliance with this Code requirement, a relocation and management plan must be approved by the County before initiation of grubbing or clearing of the site. This requirement is a standard condition of approval for the County. No further mitigation is required to prevent impacts to regulated plant species.

Sensitive Wildlife Species

General Wildlife Inventory

The natural communities identified in the BHA serve as part of a functional habitat unit for a variety of wildlife species, both within the study areas and as part of the regional ecosystem. Wildlife species observations and identifications were completed during the field investigations for the BHA. Table 3 of the BHA lists all wildlife species observed in the study area, including sensitive wildlife species. Sensitive wildlife species include those species listed as endangered or threatened under the federal Endangered Species Act (FESA) or the California ESA (CESA), candidates for listing by USFWS or CDFW, and special species of concern to the CDFW.

BHA Table 1 lists 32 sensitive wildlife species identified in database records as occurring within the site vicinity. Twenty-five of these species are deemed to be absent from the project site, generally because of the lack of appropriate habitat. The seven sensitive wildlife species having a potential to occur on the site are listed in **Table 6**.

| Table 6: Sensitive Wildlife Species with the Potential for Occurrence on the Site | | | | |
|--|------------------------------------|-----------------------|---|---|
| Common Name | Scientific Name | Federal Status | State Status | Habitat Potential |
| Desert tortoise | <i>Gopherus agassizii</i> | Threatened | Threatened | Potential habitat is present. The site is within the species range. |
| Burrowing owl | <i>Athene cunicularia</i> | None | Species of Special Concern | Potential habitat is present. The site is within the species range. |
| American badger | <i>Taxidea taxus</i> | None | Species of Special Concern | Potential habitat is present. The site is within the species range. |
| Mohave ground squirrel | <i>Xerospermophilus mohavensis</i> | None | Threatened | Potential habitat is present for this species. The site is located along the edge of the species range. |
| Loggerhead shrike | <i>Lanius ludovicianus</i> | None | Species of Special Concern | Nesting/foraging habitat is present. |
| Le Conte's thrasher | <i>Toxostoma lecontei</i> | None | No longer sensitive species in Mojave Desert. | Potential nesting habitat is present. The site is within the species range. |
| Townsend's big-eared bat | <i>Corynorhinus townsendii</i> | None | None | Foraging/roosting habitat may be present as this species roosts in open areas. |

Two of the species in Table 6 are designated as Threatened (desert tortoise and Mohave ground squirrel); none of the other species is formally listed, but burrowing owl, American badger, loggerhead shrike, and Le Conte's thrasher are considered "Species of Special Concern" by the CDFW. Based on the potential for occurrence on the site, focused surveys were conducted for desert tortoise, burrowing owl, and Mohave ground squirrel; these species are further discussed below. None of the above-listed species were observed on the site during field surveys.

Impacts to nesting birds, including burrowing owl, loggerhead shrike, and Le Conte's thrasher, are minimized through the implementation of pre-construction surveys, as further described under Impact d.). There are no specific mitigations that are applied to the unlisted species discussed above, and impacts on this relatively small and disturbed parcel are considered less than significant.

No other sensitive bird, reptile, or mammal species were detected during the survey efforts. No naturally occurring native fish populations or amphibians occur in the study areas.

Desert Tortoise

Desert tortoise (*Gopherus agassizii*) is a federal and State Threatened species. The BHA study area is not located in USFWS-designated critical habitat for the desert tortoise. The nearest designated USFWS critical habitat is 20 miles to the northeast and 22 miles to the northwest.

Phoenix performed a USFWS protocol focused survey for the desert tortoise on April 16 and 17, 2013. The survey consisted of walking 10-meter wide belt transects across the site. No tortoises or sign were observed. Biologists also performed three belt transect rings

spaced at 200, 400, and 600 meters from the perimeter of the project to determine if tortoises were present in the immediate project. No tortoises or their sign were encountered during these “Zone of Influence” surveys. Based on the results of the focused survey, desert tortoise is not present on the project site, or in the immediate vicinity. The project would therefore not impact desert tortoise. Nonetheless, because the area contains appropriate habitat for desert tortoise, future occupation of the site vicinity by tortoises is possible. To facilitate such occupation by this Threatened species, Mitigation Measure BIO-1 is required. This mitigation measure mandates steps be taken to minimize common raven populations on the site during construction and operations. Ravens prey on desert tortoises, and reducing their presence on the site would reduce the mortality of tortoises in the site vicinity. In addition, Mitigation Measure AQ-2 restricts vehicular speeds, which reduces the likelihood of mortality during construction; BIO-2 requires 5-meter desert tortoise clearance surveys along any new or existing dirt access roads used during construction; and BIO-3 requires worker awareness education for construction staff.

Burrowing Owl

Burrowing owl (*Athene cunicularia*) is a species of special concern and its burrow sites are protected. Phoenix performed protocol (Phase II) surveys for burrowing owl on April 16 and 17, 2013, in conjunction with desert tortoise surveying described above. The surveys were conducted during the peak breeding season for burrowing owls, February 1 through August 31.

The survey consisted of walking 10-meter wide belt transects across the site. Buffer zone surveys were conducted at 30-meter intervals out to 150 meters from the project site. Hand-held GPS units with a 3-5 meter accuracy were used to guide biologists within the project footprint in a north to south direction. Surveying started approximately a half hour after sunrise and ended no later than a half hour before sunset. Survey teams used hand-held mirrors to view into any potential burrows. Biologists looked for burrowing owls and their signs, such as burrows, owl feathers, pellets, whitewash (scat), and owl vocalizations. Typically, burrowing owl surveys require 20 meter wide belt transects; the surveyors exceeded the minimum by incorporating 10 meter wide transects throughout the site.

Three burrows were detected during the surveys, one on-site and two within the Zone of Influence. However, all burrows were determined to belong to either kit fox or coyote.

The project site was found to not have occupied burrowing owl habitat. No owl sign was present within the project footprint nor was owl sign present at the one burrow on site. There were no fresh tracks at the burrow entrance. The subsequent site visits did not reveal any additional owl sightings. Based on the results of the Phase II survey, owls are not utilizing this site, and no Phase III surveys are required.

The results of the breeding season focused survey indicate that the burrowing owl does not currently occupy the site or immediately adjacent areas. However, because the area continues to provide suitable shelter and nesting habitat for burrowing owls, the potential remains for the species to occur on or adjacent to the site in the future. In accordance with CDFW’s *Staff Report on Burrowing Owl Mitigation* (2012), a “take avoidance survey” for the burrowing owl should be conducted no less than 14 days prior to the initiation of ground

disturbance activities and a final survey should also be conducted within 24 hours prior to ground disturbance. If no burrowing owls are detected during the take avoidance surveys, implementation of ground disturbance activities could proceed without further consideration of this species. If burrowing owls are detected during the take avoidance survey, avoidance and minimization measures would then be required, under the guidance of the CDFW. With the implementation of Mitigation Measure BIO-3, which requires construction worker awareness training, and BIO-4, which requires pre-construction burrowing owl surveys, the potential for impacts to burrowing owl would be reduced to below a level of significance.

Mohave Ground Squirrel

Protocol surveys for the Mohave ground squirrel were conducted from April through July 2013 by Phoenix, which is authorized to conduct such surveys under a Memorandum of Understanding with CDFW.

To determine presence of Mohave ground squirrels on the project site, a visual survey was conducted, followed by a trapping survey. The purpose of the visual survey was to unobtrusively search for Mohave ground squirrels, to evaluate the habitat for its potential to support this squirrel, and to select the site for the trapping grid. The Mohave ground squirrel presence-or-absence trapping study was conducted using the CDFW's standardized survey guidelines, as further described in the MGS Report, located in Appendix B of this Initial Study. As required by the survey guidelines, three separate trapping periods were conducted, totaling 13,400 trap-hours. No Mohave ground squirrels were trapped during any of the trapping periods. Based on these results, it is concluded the project would have a less than significant impact on Mohave ground squirrel, and no mitigation measures are required.

- b) **Less than Significant Impact.** The site does not contain any riparian habitat. Vegetation on the site is creosote bush scrub, with Joshua tree woodland interspersed. Joshua tree woodland has a State sensitivity ranking of S3.2 (Vulnerable), and as such is considered a "Special Concern" community under CEQA. Creosote bush scrub is considered a secure habitat that is not at risk. Because Joshua tree woodland on this site is interspersed with creosote bush scrub, and has been subjected to a variety of disturbances and impacts (such as the spread of invasive species, human activity, and adjacent development), the expression of this plant community on the site does not meet the standard as presented by the CDFW for classifying this habitat as a "High Priority" vegetation type because it does not "exemplify high quality, sustainable, old growth characteristics" (CDFW, 2013). Therefore, modification or loss of a small amount of this quality of habitat would not be expected to constitute a significant impact under CEQA. The impact is less than significant.
- c) **Less than Significant Impact.** A wash located near the center of the site is largely avoided by the project. Mapping prepared by the Town of Apple Valley (General Plan Exhibit III-4) indicates the wash crossing the site is not within federal jurisdiction under Section 404 of the Clean Water Act. Therefore, impacts to this wash at access road and fenceline crossing points would be considered less-than-significant.
- d) **Less than Significant Impact with Mitigation Incorporated.** While some native wildlife

species, especially those particularly tolerant of human disturbances, may occasionally breed on the site, no native wildlife have established nursery or breeding colonies on the site. No naturally occurring native fish populations are present within the project site because the project site has no standing water or significant hydrological drainages where water would be present for an extended period of time.

Wildlife Corridors

The project area offers limited utility as a wildlife corridor. The general vicinity of the site includes residential development and infrastructure that prevents substantial wildlife movement. Mapping of wildlife corridors prepared by the County for the Victor Valley area (depicted in the General Plan Open Space Element map) shows no corridors in the vicinity of the site. Nonetheless, the following project design features will minimize impacts to wildlife movement within the BHA study area:

- **Lighting:** The project has been designed to minimize night lighting. No lighting is currently proposed on the site; however, if small fixtures are deemed necessary for safety, such lighting would be provided in accordance with the Night Sky Protection Ordinance. Outdoor lighting would be shielded or directed away from neighboring properties to minimize off-site impacts.
- **Noise:** The projected increases in noise will be reduced to the maximum extent practicable during construction activities. During all site clearing activities, the construction contractors will equip all construction equipment, fixed or mobile, with properly operating and maintained mufflers, consistent with manufacturers' standards to reduce construction equipment noise to the maximum extent possible. The construction contractor will place all stationary construction equipment so that emitted noise is directed away from off-site locations. In addition, all construction work would occur during daylight hours only.
- **Human and Vehicular Disturbances:** Operations and maintenance of the solar facilities will only occur on occasion and during daylight hours. Vehicles will only be operated on existing roads and reduced speed limits will be observed to minimize the risk of wildlife-vehicle collisions.
- **Dust:** Standard construction-related BMPs, such as dust control, will be implemented.

Nesting Birds

The study area has the potential to support nesting birds due to the presence of shrubs and ground cover. Disturbing or destroying active nests during construction would be a violation of the Migratory Bird Treaty Act (MBTA). In addition, nests and eggs are protected under Fish and Game Code Section 3503. Thus, the removal of vegetation during the breeding season is considered a potentially significant impact. Nesting activity typically occurs from February 15 to August 31.

In order to avoid potentially significant impacts during construction, the project will be mitigated in one of two ways: 1) habitat avoidance by removing vegetation outside of the nesting season, or 2) if construction is to occur during the nesting season, avoidance of

active nests as deemed appropriate by a qualified biologist during construction monitoring. The implementation of these measures, detailed in Mitigation Measure BIO-5, would reduce this impact to a level that is less than significant.

In addition, and in an effort to increase knowledge of the effects of solar power development on migratory birds, Mitigation Measure BIO-6 is required. This mitigation measure requires preparation of an Avian Protection Plan and documentation of each dead or injured bird encountered at the site during construction and for a period of not less than two years after construction.

Foraging Raptors

Although there is no raptor nesting habitat on the project site, the study area may support foraging habitat for a number of raptor species. However, in light of the amount of habitat that remains available for this species within the region, removal of foraging habitat represents a less than significant impact to regional raptor populations.

- e) **Less Than Significant Impact.** The San Bernardino County General Plan (Conservation Element and Open Space Element) sets forth the following policies relevant to the protection of natural resources:

1. Encourage the greater retention of existing native vegetation for new development projects to help conserve water, retain soil in place and reduce air pollutants.

Project Consistency: As described further in the project description section above, the project's solar field avoids development on an on-site drainage area. Vegetation in this area would remain intact. In addition, the project would not require regular use of water during operations. Water use could be required for occasional panel washing (approximately two times per year), resulting in less than 1 acre-foot of water consumed. During construction, dust control measures (see Mitigation Measure AQ-2) would be employed to reduce fugitive dust during grading and other ground disturbance activities. During operations, potential sources of dust would be limited to onsite roadways within the site; however, these would consist of gravel, an aggregate base, or native materials with a soil stabilization material; therefore, dust and air pollutants would be contained and limited to less than significant levels. As described above in Section IV.b., the County's decommissioning requirements in Chapter 84.29 of the County's Development Code, Renewable Energy Generation Facilities, Decommissioning Requirements (Section 84.29.6060) state that native plants must be salvaged prior to construction and transplanted and the site must be revegetated subsequent to decommissioning with native plants.

2. Require future land development practices to be compatible with the existing topography and scenic vistas, and protect the natural vegetation.

Project Consistency: The project site is relatively flat and does not contain scenic vistas. The project will not require significant manipulation of existing site grades in a way that would be inconsistent with the surrounding topography. See response to IV.e.1. above regarding protection of the natural vegetation.

3. Require retention of existing native vegetation for new development projects, particularly Joshua trees, Mojave yuccas and creosote rings, and other species protected by the Development Code and other regulations.

Project Consistency: See response to IV.e.1. above regarding protection of native vegetation. Plants protected by the California Desert Native Plants Act are afforded removal and relocation protections under the County Development Code, Title 8, Chapter 88.01, *Plant Protection and Management*. The project will be required to comply with this Code requirement as a standard condition of approval.

4. Reduce disturbances to fragile desert soils as much as practicable in order to reduce fugitive dust.

Project Consistency: See response to IV.e.1. and 2. above regarding preventing fugitive dust emissions and the limited grading activities proposed onsite.

5. Ensure that Off-Highway Vehicle use within the plan area and in the surrounding region is managed to protect residential uses and environmentally sensitive areas.

Project Consistency: Off-Highway Vehicle use will not be permitted on the project site; this will be enforced with the installation of security fencing around the project perimeter.

- f) **No Impact.** The project site is not located within an adopted Habitat Conservation Plan, Natural Community Conservation Plan, or other approved local, regional, or State habitat conservation plan. The study area is within the West Mojave Plan boundary; however that plan currently applies only to federal Bureau of Land Management (BLM) lands and not to the study areas. The project site is also within the planning area of the Desert Renewable Energy Conservation Plan; however, this Habitat Conservation Plan and Natural Community Conservation Plan is still in development and has not been adopted. The project will have no significant impact relating to Habitat Conservation Plans, Natural Community Conservation Plans, and Recovery Plans. There would be no take of critical habitat and, therefore, no land use conflict with existing management plans would occur.

SIGNIFICANCE: Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:

BIOLOGICAL RESOURCES MITIGATION MEASURES:

BIO-1 *Raven Management.* The project will implement the following measures to mitigate impacts that could result in a local increase in common ravens:

- *Dispose of all trash and food-related waste in secure, self-closing receptacles to prevent the introduction of subsidized food resources for common ravens.*
- *Use water for construction, operation and maintenance in a manner that does not result in creating areas of standing water.*

- Remove and dispose of road kills of common wildlife species from the project site and access road from soil disturbance and road kill (e.g., small mammals, insects, etc.). No species subject to the Endangered Species Act may be removed. Removal and disposal of all wildlife species can only be accomplished by an individual that possess a Scientific Collecting Permit issued by California Department of Fish & Wildlife.
- Remove any food sources and attractants from human and animal food and waste.
- Document common raven use of the project site and access road on a daily basis. If frequently used perching locations are identified, use physical, auditory or visual bird deterrents to discourage use by common ravens.
- Remove any inactive raven nests in the project site or along the access road.
- Raven nest removal must be conducted on all property structures for the life of the project. In the event that a nest is located with eggs, the nest will be removed following the completion of the nesting cycle unless, current implementation standards of the regional raven management plan allow for immediate removal.

BIO-2 Desert Tortoise – Access Road Clearance Surveys. Conduct 5 meter DT clearance surveys along any new or existing dirt access roads that will be used during the construction phase to identify areas of potential avoidance or areas where realignment of proposed access roads is preferred to minimize impacts.

BIO-3 Worker Awareness Education. Prior to ground disturbance, a professional biologist will hold a pre-construction education meeting with the construction foreman and on-site construction-related personnel to identify sensitive species that could be encountered onsite and the steps to take if sensitive species are identified. Specifically related to desert tortoise and burrowing owl, tortoise and owl worker awareness education shall be provided to all construction-related personnel. Construction-related personnel shall receive a information pamphlet on general tortoise, lizard and burrowing owl biology and how to recognize and avoid desert tortoises, and burrowing owls, authorized speed limits while working within the project site, trash abatement and checking under parked vehicles and equipment prior to moving.

BIO-4 Burrowing Owl Mitigation – Pre-Construction Surveys. Within 14 days prior to ground disturbance, the Applicant will retain a qualified biologist to conduct burrowing owl surveys within the area to be disturbed. The survey will be performed by walking parallel transects spaced no more than 20 meters apart, and will be focused on detecting burrows that are occupied, or are suitable for occupation, by the burrowing owl. The results of the surveys, including graphics showing the locations of any active burrows detected and any avoidance measures required, will be submitted to the County of San Bernardino and the California Department of Fish & Wildlife (CDFW) within 14 days following completion of the surveys. If active burrows are detected, the following take avoidance measures will be implemented:

- If burrowing owls are observed using burrows on-site during the non-breeding season (September through January, unless determined otherwise by a qualified biologist based on field observations in the region), occupied burrows will be left undisturbed, and no construction activity will take place within 300 feet of the burrow where feasible (see below).

- *If avoiding disturbance of owls and owl burrows on-site is infeasible, owls will be excluded from all active burrows through the use of exclusion devices placed in occupied burrows in accordance with protocols established in CDFW's Staff Report on Burrowing Owl Mitigation (2012). Specifically, exclusion devices, utilizing one-way doors, will be installed in the entrance of all active burrows. The devices will be left in the burrows for at least 48 hours to ensure that all owls have been excluded from the burrows. Each of the burrows will then be excavated by hand and/or mechanically and refilled to prevent reoccupation. Exclusion will continue until the owls have been successfully excluded from the disturbance area, as determined by a qualified biologist.*
- *Any active burrowing owl burrows detected on-site during the breeding season (February through August, unless determined otherwise by a qualified biologist based on field observations in the region), will not be disturbed. Construction activities will not be conducted within 300 feet of an active on-site burrow at this season.*

BIO-5 *Nesting Bird Mitigation – Pre-Construction Surveys.* *Within 30 days prior to vegetation clearing or ground disturbance associated with construction or grading that would occur during the nesting/breeding season (February through August, unless determined otherwise by a qualified biologist based on observations in the region), the Applicant will retain a qualified biologist to determine if active nests of species protected by the Migratory Bird Treaty Act or the California Fish and Game Code are present within or adjacent to the disturbance zone or within 100 feet (300 feet for raptors) of the disturbance zone. The surveys will be conducted no more than seven days prior to initiation of disturbance work within active project areas. If ground disturbance activities are delayed, then additional pre-disturbance surveys will be conducted such that no more than seven days will have elapsed between the survey and ground disturbance activities. If ground disturbance will be phased across the project site, pre-disturbance surveys may also be phased to conform to the development schedule.*

If active nests are found, clearing and construction within 100 feet of the nest (or a lesser distance if approved by the U.S. Fish & Wildlife Service) will be postponed or halted, until the nest is vacated and juveniles have fledged, as determined by the biologist. Avoidance buffers will be established in the field with highly visible construction fencing or flagging, and construction personnel will be instructed on the sensitivity of nest areas. A qualified biologist will serve as a construction monitor during those periods when construction activities will occur near active nests to ensure that no inadvertent impacts on these nests occur.

The results of pre-construction nesting bird surveys, including graphics showing the locations of any nests detected, and documentation of any avoidance measures taken, will be submitted to the County of San Bernardino and California Department of Fish & Wildlife within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds.

BIO-6 *Avian Mortality Monitoring.* *In an effort to contribute meaningful data regarding the effects of industrial-scale photovoltaic solar projects on migratory birds, the Applicant will perform construction-phase and operations-phase avian mortality monitoring at the project site. Prior*

to issuance of a grading permit for the project, the Applicant will submit an Avian Protection Plan to the County of San Bernardino and the U.S. Fish & Wildlife Service (USFWS) ensuring that any birds encountered dead or injured on the project site are documented. At a minimum, the plan will include the following elements:

1. Bird Encounter Protocol during Construction

This section of the plan will include a protocol to be used upon discovery of a dead or injured bird during project construction to ensure timely and consistent data collection. At a minimum, the plan will require the Applicant and on-site biological monitor to determine pertinent information, such as the following:

- The species, life stage (adult or juvenile), and sex (if practical) of the bird*
- The likely cause of injury or death, if apparent; and,*
- The approximate date of death, for individuals that have been dead for a period prior to discovery.*

2. Construction-Phase Reporting Requirements

This section of the plan will require that avian injury/mortality data be compiled and transmitted to the County of San Bernardino and the USFWS on a periodic basis, and will specify the frequency and method by which this notification should be made. However, in the event that avian species listed as Threatened or Endangered under the Endangered Species Act are encountered, the plan will require that the USFWS be notified immediately. Additionally, the applicant will not destroy, collect, or remove bird remains from the site without first obtaining any required permits from the USFWS and/or California Department of Fish & Wildlife (CDFW).

3. Operations-Phase Mortality Monitoring

This section of the plan will require that the Applicant retain a qualified biologist to conduct periodic avian mortality monitoring during operations at the site, and will detail the methods by which this monitoring should be conducted. The plan will require monitoring for a minimum period of two years following completion of construction. A minimum of five monitoring events must be conducted during each year, and will be scheduled to coincide with peak migration periods. At least one monitoring event each year will be conducted during the winter months (November through January), to assess any mortality of wintering birds.

4. Adaptive Management

This section of the plan will set forth a process through which changes to the monitoring schedule or methods may be implemented if warranted due to unforeseen circumstances or other factors. During the construction- and operations-phase avian mortality monitoring, the Applicant and monitoring biologist will keep the County of San Bernardino and USFWS informed of monitoring progress and will alert these agencies if it appears that changes to the monitoring schedule or methods are needed. If it is apparent that substantial project-related injury or mortality of birds may be occurring, or if there are substantial unresolved questions regarding the project's effects on avian species, then the monitoring period, methods, or frequency may be modified to address these concerns. In addition, if specific project elements are resulting in substantial avian injury or mortality, the plan will direct that the

Applicant work with the USFWS to identify and implement reasonable measures to modify these elements in a manner that lessens the effects on migratory birds.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|--------------------------------|--|--------------------------|--------------------------|
| V. CULTURAL RESOURCES - Will the project | | | | |
| a) Cause a substantial adverse change in the significance of a historical resource as defined in §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| c) Directly or indirectly destroy a unique paleontological resource or site or unique geologic feature? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| d) Disturb any human remains, including those interred outside of formal cemeteries? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION: (Check if the project is located in the Cultural ☐ or Paleontologic ☐ Resources overlays or cite results of cultural resource review):

- a) **Less than Significant Impact with Mitigation Incorporated.** Phoenix prepared a Cultural Resources Assessment (CRA) for the 23-acre project site in January 2013. The purpose was to identify and document any cultural resources that might be located in the project's area of potential effect (APE) and to evaluate such resources pursuant to National Historic Preservation Act (NHPA) Section 106, CEQA, and the County's General Plan. The Cultural Assessment identified historic or archaeological properties by means of pedestrian survey and research in appropriate historical and archaeological archives. The full report, with detailed findings and recommendations, is included as Appendix C.

Literature Review and Records Search

Phoenix conducted a cultural resources records search and literature review at the California Historic Resources Information System (CHRIS) San Bernardino Archaeological Information Center (SBAIC) at the San Bernardino County Museum in Redlands, California. Phoenix also reviewed databases for the National Register of Historic Places (National Register) and the California Register of Historical Resources (California Register).

The records search revealed that eight cultural resources studies have previously been conducted within a one-mile radius of the project site; none of these studies covered the site itself. The studies identified three cultural resources within one mile of the site.

Pedestrian Field Survey

To identify any previously unrecorded archaeological resources and to determine the potential for buried archaeological deposits, Phoenix performed pedestrian field surveys of the project site on December 13, 2012. The survey was conducted by walking parallel transects spaced approximately 30 meters apart across 100 percent of the project site, where accessible. Phoenix recorded any identified resources using DPR 523 forms, GPS coordinates for mapping purposes, and digital photography.

Evaluation of Potential Resource

The field survey identified one historic trash scatter (identified as A-001H) and one historic can scatter (A-002H). CEQA calls for the evaluation and recordation of historic and archaeological resources. The criteria for determining the significance of impacts to cultural resources are based on Section 15064.5 of the CEQA Guidelines and Guidelines for the Nomination of Properties to the California Register. Properties eligible for listing in the California Register and subject to review under CEQA are those meeting the criteria for listing in the California Register, National Register, or designation under a local ordinance.

Significance criteria to determine eligibility for the California Register of Historical Resources are based on National Register criteria. For a property to be eligible for inclusion on the California Register, one or more of the following criteria must be met:

1. It is associated with the events that have made a significant contribution to the broad patterns of local or regional history, or the cultural heritage of California or the U.S.;
2. It is associated with the lives of persons important to local, California, or U.S. history;
3. It embodies the distinctive characteristics of a type, period, region, or method of construction, represents the work of a master, possesses high artistic values; and/or
4. It has yielded, or has the potential to yield, information important to the prehistory or history of the local area, California, or the nation.

In addition to meeting one or more of the above criteria, the California Register requires that sufficient time has passed since a resource's period of significance to "obtain a scholarly perspective on the events or individuals associated with the resources" (California Code of Regulations 4852 [d][2]). The California Register also requires that a resource possess integrity. This is defined as the ability for the resource to convey its significance through seven aspects: location, setting, design, materials, workmanship, feeling, and association.

Potential Resources: Historic Trash Scatter (A-001H) and Historic Can Scatter (A-002H)

Based on the investigation, it was determined that the historic trash scatter has not made a significant contribution to the broad patterns of our history and is not associated with the lives of persons significant in our past, therefore, the historic trash scatter is not recommended eligible for listing to CEQA under Criteria 1 or 2. The site does not embody distinctive characteristics of a type, period, or method of construction, or represent the work of a master, or possess high artistic values, or represent a significant and distinguishable entity whose components may lack individual distinction. Therefore, it is not recommended eligible for listing to CEQA under Criterion 3. Finally, the site has not yielded, and is not likely to yield, information important in history. It is, therefore, not recommended eligible for listing on the CRHR under Criterion 4. No further study is required.

Conclusion

Based on the lack of historical resources on the site, as determined by records searches and field surveys, the project would not cause a substantial adverse change in the significance of a historical resource. Nonetheless, there is potential for historical resources buried on the site to be uncovered during construction. Mitigation measures require the

applicant to retain on-call a qualified archaeologist. In the event of the discovery of buried cultural resources, the project archaeologist would be brought on-site to monitor ground-disturbing activities and excavations and temporarily redirect activities from the vicinity of the find in order to evaluate the significance of the resource and to provide proper management recommendations. See Mitigation Measures CR-1 and CR-2 below.

- b) **Less than Significant Impact with Mitigation Incorporated.** The proposed project would not cause a substantial adverse change in the significance of an archaeological resource pursuant to §15064.5 (see Item V.a above). Records searches and field surveys in support of the CRA identified no archaeological resources on the site; therefore, the effects of the project on such resources are not considered a significant effect on the environment (CEQA Guidelines §15064.5(c)(4)). Mitigation measures require the applicant to retain on-call a qualified archaeologist. In the event of the discovery of buried cultural resources, the project archaeologist would be brought on-site to monitor ground-disturbing activities and excavations and temporarily redirect activities from the vicinity of the find in order to evaluate the significance of the resource and to provide proper management recommendations. See Mitigation Measures CR-1 and CR-2 below.
- c) **Less than Significant Impact with Mitigation Incorporated.** The project site is generally flat, at an elevation of about 3,100 feet. There are no unique geologic features on or adjacent to the project site.

Included in Appendix C to this Initial Study are the results of a paleontology records check prepared by the Natural History Museum of Los Angeles County, Vertebrate Paleontology Section (L.A. County Museum). The purpose of this records check was to determine the likelihood of any onsite paleontological resources being found and to determine the potential for disturbance of undiscovered resources during construction, pursuant to CEQA and the County's General Plan.

Surficial deposits in the proposed project area consist of younger Quaternary Alluvium, derived as alluvial fan deposits from the Ord Mountains to the south. To the south of the project area are surface deposits of older Quaternary Alluvium, which are coarse alluvial fan deposits from plutonic igneous rocks in the Ord Mountains. Neither of these deposits are considered by the L.A. County Museum as likely to contain significant vertebrate deposits; however, there is a somewhat higher potential for such deposits to be present at depth in finer-grained fluvial deposits in the small drainage crossing the site.

The paleontology records check identified the closest fossil vertebrate record from deposits similar to those on the site to be a specimen of mammoth collected from older Quaternary Alluvium west-northwest of the project site, on the western side of the Mojave River (about five miles away). The next closest fossil vertebrate locality (designated LACM 1224) identified in these older Quaternary deposits is northwest of the project area, west of Spring Valley Lake (6 miles from the site), that produced a specimen of fossil camel (*Camelops*).

Surface grading or shallow excavations in the uppermost few feet of the younger Quaternary Alluvium exposed in the project area are unlikely to uncover significant vertebrate fossil remains. However, deeper excavations that extend into finer-grained older Quaternary deposits may encounter significant fossil vertebrates. Therefore, mitigation

measures are required to minimize the potential for deep excavations to impact paleontological resources. The project would be subject to Mitigation Measure PR-1, which involves pre-grading preparation of a paleontological monitoring plan by a qualified, County-approved paleontologist.

If grading or excavation activities reach depths of two meters or more (5.5 to 6 feet), then Mitigation Measures PR-2 to PR-3 would be implemented to identify, evaluate, and recover paleontological resources. The mitigation measures are consistent with the recommendations set forth by the L.A. County Museum, and their implementation would reduce impacts to paleontological resources to a level that is less than significant.

- d) **Less than Significant Impact with Mitigation Incorporated.** Field surveys conducted as part of the CRA did not encounter any evidence of human remains. The project site is not located on or near a known cemetery, and no human remains are anticipated to be disturbed during the construction phase. Mitigation Measure CR-3 ensures that, in accordance with applicable regulations, construction activities would halt in the event of discovery of human remains, and consultation and treatment would occur as prescribed by law.

SIGNIFICANCE: Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:

CULTURAL RESOURCES MITIGATION MEASURES:

CR-1 *Construction Monitoring.* A qualified archaeologist will be retained by the Applicant/landowner and approved by the reviewing agencies prior to the commencement of the project. The archaeologist will be on-call to monitor ground-disturbing activities and excavations on the project site following identification of potential cultural resources by project personnel.

CR-2 *Resource Evaluation and Disposition.* If archaeological resources are encountered during implementation of the project, ground-disturbing activities will be temporarily redirected from the vicinity of the find. The archaeologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find and determine appropriate treatment that may include the development and implementation of a data recovery investigation or preservation in place. All cultural resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the California Historic Resources Information System (CHRIS) San Bernardino Archaeological Information Center (SBAIC) at the San Bernardino County Museum in Redlands, California. The archaeologist will prepare a final report about the find to be filed with the Applicant/landowner and the CHRIS-SBAIC. The report will include documentation and interpretation of resources recovered. Interpretation will include full evaluation of the eligibility with respect to the National Register of Historic Places and California Register of Historical Resources and CEQA. The Applicant, in consultation with the Lead Agency and archaeologist, will designate repositories in the event that resources are recovered.

CR-3 Human Remains. If human remains are encountered unexpectedly during construction excavations and grading activities, State Health and Safety Code Section 7050.5 requires that no further disturbance will occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American, who will then help determine what course of action will be taken in dealing with the remains. The landowner will then undertake additional steps as necessary in accordance with CEQA Guidelines Section 15064.5(e) and PRC Section 5097.98.

PALEONTOLOGICAL RESOURCES MITIGATION MEASURES:

PR-1 Pre-Construction Responsibilities. A qualified paleontologist will be retained by the Applicant and approved by the County of San Bernardino prior to the implementation of the Proposed Project to execute a paleontological monitoring plan. A qualified paleontologist is defined here as a paleontologist meeting the qualifications established by the Society of Vertebrate Paleontologists. The paleontologist will:

1. Review the grading study and coordinate with project engineers to become familiar with the proposed depths and patterns of grading across the project site.
2. Enter into a repository agreement with an accredited institution (such as the San Bernardino County Museum) before grading operations commence to ensure that an appropriate facility has been selected to curate any fossils encountered during the monitoring program.

PR-2 Construction Monitoring. A paleontological monitor, supervised by the paleontologist, will monitor all project-related ground-disturbing activities that reach two meters (5.5 to 6 feet) or more in depth. Pile driving is not considered a ground-disturbing activity for the purposes of this mitigation measure. If fossils are found during ground-disturbing activities, the paleontological monitor will be empowered to halt those activities within 25 feet of the find to allow evaluation of the find and determination of appropriate treatment.

PR-3 Resource Collection and Disposition. The paleontological monitor and/or the paleontologist will collect all significant fossils encountered. All significant fossils will be stabilized and prepared to a point of identification and permanent preservation. The paleontologist will prepare a final report on the monitoring. If fossils were identified, the report will contain an appropriate description of the fossils, treatment, and curation. A copy of the report will be filed with the Applicant, the County of San Bernardino, and the San Bernardino County Museum, and will accompany any curated fossils.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|-------------------------------------|
| VI. GEOLOGY AND SOILS - Will the project: | | | | |
| a) Expose people or structures to potential substantial adverse effects, including the risk of loss, injury, or death involving: | | | | |
| i. Rupture of a known earthquake fault, as delineated on the most recent Alquist-Priolo Earthquake Fault Zoning Map Issued by the State Geologist for the area or based on other substantial evidence of a known fault? Refer to Division of Mines and Geology Special Publication 42. | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| ii. Strong seismic ground shaking? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iii. Seismic-related ground failure, including liquefaction? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| iv. Landslides? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Result in substantial soil erosion or the loss of topsoil? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Be located on a geologic unit or soil that is unstable, or that would become unstable as a result of the project, and potentially result in on or off site landslide, lateral spreading, subsidence, liquefaction or collapse? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) Be located on expansive soil, as defined in Table 181-B of the California Building Code (2001) creating substantial risks to life or property? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) Have soils incapable of adequately supporting the use of septic tanks or alternative wastewater disposal systems where sewers are not available for the disposal of wastewater? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION: (Check ☐ if project is located in the Geologic Hazards Overlay District):

- a) i) **No Impact.** The proposed project site is not located within an Alquist-Priolo Earthquake Fault Zone. Additionally, no fault is mapped on or near the site by the County's General Plan Geologic Hazard Overlays map (FH07C) or by the Town of Apple Valley in its General Plan Geological Units in Apple Valley Area map (Exhibit IV-1). While the potential for onsite ground rupture cannot be totally discounted (e.g., unmapped faults could conceivably underlie the project site), the likelihood of such an occurrence is considered low due to the absence of known faults within the site. There is no impact related to the exposure of persons or structures to rupture of a known earthquake fault.
- ii) **Less than Significant Impact.** The project site is within a seismically active region and is potentially subject to strong ground acceleration from earthquake events along major

regional faults. The nearest identified fault line to the project site is the North Frontal Fault (located 0.5 mile south of the site), which is considered active and is capable of generating significant seismic activity.

The proposed project would not include any habitable structures. Nonetheless, the design of any structures on-site would incorporate measures to accommodate projected seismic loading, pursuant to existing California Building Code (CBC) and local building regulations. Specific measures that may be used for the proposed project include proper fill composition and compaction; anchoring (or other means of securing applicable structures); and the use of appropriate pipeline materials, dimensions, and flexible joints. Based on the incorporation of applicable measures into project design and construction, potential project impacts associated with strong seismic ground shaking would be less than significant.

iii) **Less than Significant Impact.** Liquefaction is the phenomenon whereby soils lose shear strength and exhibit fluid-like flow behavior. Other types of seismic-related ground failure include ground rupture (as discussed in Section VI.a.i), landslide (as discussed in Section VI.a.iv), dynamic ground subsidence (or settlement), and lateral spreading.

Loose granular soils are most susceptible to liquefaction, and the phenomenon is generally restricted to saturated or near-saturated soils at depths of less than 50 feet. The Town of Apple Valley has mapped areas of seismic-related hazards within the Town's SOI (General Plan Exhibit IV-2). The project site is not mapped as an area with a significant risk of liquefaction. The potential project impacts associated with liquefaction would be less than significant and no further analysis is warranted.

iv) **No Impact.** The proposed project would not have any risks associated with landslides. Landslides are the downslope movement of geologic materials. The stability of slopes is related to a variety of factors, including the slope's steepness, the strength of geologic materials, and the characteristics of bedding planes, joints, faults, vegetation, surface water, and groundwater conditions. Mapping by the Town of Apple Valley (General Plan Exhibit IV-2) does not map the project site and its vicinity as having a significant risk of landslides. The project area is relatively flat terrain where landslides have not historically been an issue; therefore, no significant impacts are anticipated with respect to seismic-related (or other) landslide hazards, and no further analysis is warranted.

- b) **Less than Significant Impact.** Active construction sites are a source of topsoil erosion if site drainage is not controlled. The potential impacts of soil erosion would be minimized through implementation of Geotechnical Investigation recommendations and Development Code requirements.

In addition, as discussed in more detail in Section IX. Hydrology and Water Quality, the National Pollutant Discharge Elimination System (NPDES) permit program controls water pollution by regulating point sources that discharge pollutants into "Waters of the U.S.". As required by the County, construction activities would be conducted in compliance with the statewide NPDES General Permit for Storm Water Discharges Associated with the Construction and Land Disturbance Activities (Order No 2009-009-DWQ as amended by Order No. 2010-0014-DWQ [NPDES No. CAS000002]), issued by the State Water Resources Control Board (SWRCB) on September 2, 2009, and effective for all project

sites on July 1, 2010. Specifically, the applicant would prepare a Stormwater Pollution Prevention Plan (SWPPP) in compliance with the requirements of the NPDES General Construction Permit. The SWPPP would prescribe Best Management Practices (BMPs) to control wind and water erosion during and shortly after construction of the project. The impact on soil erosion is less than significant and no further analysis is warranted.

During construction activities, BMPs would be implemented in compliance with the NPDES permit requirements to manage and limit erosion. In so doing, construction-related erosion impacts would be less than significant levels.

Project site improvements, including concrete pads and access roads, which would be compacted pursuant to fire department requirements, would result in the creation of limited amounts of impervious surfaces on the project site and loss of top soil. With limited vegetation and no improvements or irrigation onsite, high wind conditions currently cause soil erosion and would continue to be an issue even after project implementation.

Adherence with the mitigation measures under the Air Quality section will reduce soil erosion and loss of topsoil.

- c) **Less than Significant Impact.** Mapping of geologic hazard areas by both the County (Geologic Hazard Overlays map FH07 C) and the Town of Apple Valley (General Plan Exhibit IV-2) show no indication of a hazardous geologic unit or soil in the area that could produce an off-site landslide, lateral spreading, subsidence, liquefaction or collapse

Prior to construction, a geotechnical investigation of the site will be conducted to provide detailed design recommendations. The geotechnical investigation would be reviewed and approved by County staff. The project developer would be required to adhere to recommendations in the investigation as conditions imposed on the project during the grading and building permit process.

During construction, the geotechnical engineer would provide on-site observation of site preparation and grading, fill placement and foundation installation, thus ensuring that geotechnical conditions are as anticipated and that the contractor's work meets with the criteria in the approved plans and specifications.

Overall, adherence to the geotechnical investigation recommendations and implementation of San Bernardino County Development Code grading standards, as applicable, would minimize the potential impact of on- or off-site landslide, lateral spreading, subsidence, liquefaction, or collapse. The impact of geologic instability is therefore less than significant and no further analysis is warranted.

- d) **Less than Significant.** Expansive (or shrink-swell) behavior is attributable to the water-holding capacity of clay minerals and can adversely affect the structural integrity of facilities. In general, compliance with Building Code requirements would minimize potential impacts to project facilities. As noted in c.) above, a geotechnical investigation will be prepared prior to construction. This investigation will examine soil expansiveness and provide necessary technical standards for use of site soils.

The lack of housing or permanent employees on the site ensures that risks to human

safety would be minimal. Therefore, impacts would be less than significant and no further analysis is warranted.

- e) **No Impact.** The project does not propose to use septic tanks or alternative wastewater disposal systems; therefore, no impacts are would occur. No further analysis is warranted.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| Issues | | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|--------------------------------------|---|-------------------------------------|--------------------------|
| VII GREENHOUSE GAS EMISSIONS - Will the project: | | | | | |
| a) | Generate greenhouse gas emissions, either directly or indirectly, that may have a significant impact on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) | Conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION:

- a) **Less than Significant Impact.** The project would not generate greenhouse gas (GHG) emissions, either directly or indirectly, that may have a significant impact on the environment. In September 2006, the State enacted the Global Warming Solutions Act (Assembly Bill 32), which was created to address greenhouse gases emitted by human activity and implicated in global climate change. The Act requires that the greenhouse gas (GHG) emissions in California be reduced to 1990 levels by 2020. This is part of a larger plan in which California hopes to reduce its emissions to 80 percent below 1990 levels by 2050.

Additionally, through the California Climate Action Registry (CCAR, now called the Climate Action Reserve), general and industry-specific protocols for assessing and reporting GHG emissions have been developed. GHG sources are categorized into direct sources (i.e., from the project site itself and from activities directly associated with operations) and indirect sources (i.e., not directly associated with the project, but impacted by its operations). Direct sources include combustion emissions from on- and off-road mobile sources, and fugitive emissions. Indirect sources include off-site electricity generation and non-company owned mobile sources.

As discussed in Section III (Air Quality) of this document, the proposed project's primary contribution to air emissions is attributable to construction activities, including the delivery of PV panels, support structures and other project equipment to the site. Project construction would result in GHG emissions from construction equipment, panel and project equipment deliveries, and construction workers' personal vehicles traveling to and from the site. Construction-related GHG emissions vary depending on the level of activity, length of the construction period, specific construction operations, types of equipment, and number of personnel.

The primary emissions that would result from the proposed project occur as carbon dioxide (CO₂) from gasoline and diesel combustion, with more limited vehicle tailpipe emissions of nitrous oxide (N₂O) and methane (CH₄), as well as other GHG emissions related to vehicle cooling systems. To account for variations in the effectiveness of these gases on climate change, a measure called CO₂-equivalent (CO₂e) is used.

Pursuant to Section 15064.4 of the State CEQA Guidelines, the treatment of GHG emissions follows a process of quantification of project-related GHG emissions, determination of significance, and specification of any appropriate mitigation if impacts are

found to be potentially significant. The AQIA used the CalEEMod and EMFAC2011 computer models to quantify construction-period and operational GHG emissions. Modeling predicts construction activities would generate 235 metric tons (MT) CO₂e emissions.

For screening purposes, the temporary construction activity GHG emissions were compared to the chronic operational emissions in the ARB's interim thresholds. The screening level operational threshold is 7,000 MT CO₂e per year. Construction activities generating a total of 235 MT CO₂e are well below this threshold and are considered less than significant.

Operational-period emissions would be produced through vehicle travel for panel cleaning, maintenance, and security. The AQIA calculates those emissions at about 8 metric tons of CO₂e per year. However, during its operational life, the project would fully offset its operational GHG emissions. The offset effect of solar power results from the displacement of electrical power production that would otherwise occur at fossil-fueled power plants that necessarily generate GHGs alongside electricity. As designed, the 3-MW rated plant, with a typical 20 percent solar capacity factor, would annually produce 5,250 megawatt-hour (MW-HR) of electrical energy. The generation of 1 MW-HR of electricity in California produces an average of 0.331 MT of CO₂e. The offset created by 5,250 MW-HR per year from a solar power facility would be 1,740 MT CO₂e. Subtracting the project's operational GHG emissions yields a net GHG benefit of 1,732 MT CO₂e per year. Therefore, the project would reduce regional GHG emissions during operations, and GHG impacts are considered beneficial.

- b) **Less than Significant Impact.** The proposed project would not conflict with any applicable plan, policy or regulation of an agency adopted for the purpose of reducing the emissions of greenhouse gases. In December 2011, the County Board of Supervisors adopted a Greenhouse Gas Emissions Reduction Plan (GHG Reduction Plan). The GHG Reduction Plan states that “[w]ith the application of the GHG performance standards, projects that are exempt from CEQA and small projects that do not exceed 3,000 MTCO₂e per year will be considered to be consistent with the Plan and determined to have a less than significant individual and cumulative impact for GHG emissions.” (p. 4-5). Applicable performance standards are identified in Appendix F of the GHG Reduction Plan. As noted in Appendix F, these performance standards apply to all projects and are included as Conditions of Approval when discretionary approvals are granted. Therefore, all applicable performance standards will be included in the Conditions of Approval for the project. In addition, as described in Item VII.a., the project is well below the 3,000 MTCO₂e per year screening threshold.

Because the project will be required to comply with all applicable performance standards identified in the GHG Reduction Plan, and GHG emissions would not exceed the 3,000 MTCO₂e per year screening threshold, the project is determined to be consistent with the County's GHG Reduction Plan.

No significant adverse impacts are identified or anticipated and no mitigation measures are required

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|--------------------------------------|---|-------------------------------------|-------------------------------------|
| VIII HAZARDS AND HAZARDOUS MATERIALS - Will the project: | | | | |
| a) Create a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Emit hazardous emissions or handle hazardous or acutely hazardous materials, substances, or waste within one-quarter mile of an existing or proposed school? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Be located on a site which is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5 and, as a result, will it create a significant hazard to the public or the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, will the project result in a safety hazard for people residing or working in the project area? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| g) Impair implementation of or physically interfere with an adopted emergency response plan or emergency evacuation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) Expose people or structures to a significant risk of loss, injury or death involving wildland fires, including where wildlands are adjacent to urbanized areas or where residences are intermixed with wildlands? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION:

- a) **Less than Significant Impact.** The proposed project is not expected to result in impacts from hazards and hazardous materials with respect to creating a significant hazard to the public or the environment through the routine transport, use, or disposal of hazardous materials. This is because the proposed project would not involve the routine transport, use, or disposal of significant amounts of hazardous materials as defined by the Hazardous Materials Transportation Uniform Safety Act. During construction, the proposed project would involve the transport of general construction materials (i.e., concrete, wood, metal,

fuel, etc.) as well as the materials necessary to construct the proposed PV arrays. Construction activities would involve the use of hazardous materials such as fuels and greases for the fueling and servicing of construction equipment. Such substances may be stored in temporary storage tanks/sheds that would be located on the project site. Although these types of materials are not acutely hazardous, they are classified as hazardous materials and create the potential for accidental spillage, which could expose workers. The use, storage, transport, and disposal of hazardous materials used in construction of the facility would be carried out accordance with federal, state, and County regulations. No extremely hazardous substances (i.e., governed under Title 40, Part 335 of the Code of Federal Regulations) are anticipated to be produced, used, stored, transported, or disposed of as a result of project construction. As needed, Material Safety Data Sheets for all applicable materials present on-site would be made readily available to on-site personnel as required by the SBCFD Hazardous Materials Division. During construction of the facility, non-hazardous construction debris would be generated, disposed of in local landfills, or recycled. Sanitary waste would be managed using portable toilets, with waste being disposed of at approved sites. The nearest designated truck route to the site is SR-18, 3.5 miles to the northeast and accessible via Central Road and Bear Valley Road.

The PV panels and inverters would produce no waste during operation. PV panels are in a solid and non-leachable state; broken PV panels would not be a source of pollution to stormwater. PV panels would be cleaned by spraying demineralized water on the panels to remove dust and other material buildup. Cleaning water would be allowed to infiltrate into the ground or evaporate as it drips off the PV modules. No cleaning agents would be used during this process.

The project would be required to comply with federal, state, and county laws, ordinances, and regulations; therefore, the project would result in less-than-significant impacts related to the creation of significant hazards through the routine transport, use, or disposal of hazardous materials.

- b) **Less than Significant Impact.** The proposed project would not create a significant hazard to the public or the environment through reasonably foreseeable upset and accident conditions involving the release of hazardous materials into the environment. With the exception of construction-related materials such as fuels, lubricants, adhesives, and solvents, the proposed project would not generate or require the use or storage of significant quantities of hazardous substances. The toxicity and potential release of these materials would depend on the quantity of material, type of storage container, safety protocols used on the site, location and/or proximity to residences, frequency and duration of spills or storage leaks, and the reactivity of hazardous substances with other materials. Therefore, a complete list of all materials used on-site, how the materials would be transported, and in what form they would be used would be recorded to maintain safety and prevent possible environmental contamination or worker exposure. Compliance with regulations and standard protocols during the storage, transportation, and usage of any hazardous materials would ensure no substantial impacts would occur. The PV panels used in the proposed project are environmentally sealed collections of PV cells that require no chemicals and produce no waste materials. There is no a battery backup component, thus

minimizing the need for transporting, using, or disposing of the hazardous materials that may be associated with the project. As such, there is a less-than significant impact associated with creating a significant hazard to the public or the environment.

- c) **No Impact.** There is no school located within ¼ mile of the project. The nearest school is 0.8 mile to the west. There would be no impact related to hazardous emissions or the handling of hazardous materials near schools resulting from implementation of the project.
- d) **No Impact.** The project site is not located on a known site that is included on a list of hazardous materials sites compiled pursuant to Government Code Section 65962.5. The proposed project would not create a significant hazard to the public or the environment. Therefore, the project would result in a less than significant impact associated with hazardous materials sites.
- e) **No Impact.** The proposed project area is not located in the vicinity of any public or public use airport. The site is not within the boundaries of an airport land use plan. The nearest public or public use airport is Apple Valley Airport, 9.5 miles to the north. The project would result in no safety hazards for people residing or working in the project area as a result of proximity to an airport.
- f) **No Impact.** The proposed project area is not located within the vicinity of a private airstrip; therefore, it would not result in a safety hazard for people residing or working in the project area. The nearest private airstrip is Hesperia Airport, located approximately 9.5 miles to the southwest of the project site. There is no impact and no further analysis is warranted.
- g) **No Impact.** Activities associated with the proposed project would not impede existing emergency response plans for the project site and/or other land uses in the project vicinity. The project would not result in any closures of existing roadways that might have an effect on emergency response or evacuation plans in the vicinity of the project site. In addition, all vehicles and stationary equipment would be staged off public roads and would not block emergency access routes. Accordingly, implementation of the proposed project would not impair implementation of, or physically interfere with, an adopted emergency response plan or emergency evacuation plan. There is no impact and no further analysis is warranted.
- h) **Less than Significant Impact.** The project site is not within an area of high or very high fire hazard, as determined by CAL FIRE. However, any development, along with the associated human activity, in previously undeveloped areas increases the potential of the occurrence of wildfires in the region. Although vegetation on the project site consists of native grasses and shrubs, species of non-native plants (noxious weeds) included on the weed list of the California Department of Food and Agriculture may occur in the project area. In addition to posing a major threat to biological resources, the spread of noxious weeds can result in increased fire frequency by providing sufficient fuel to carry fires. As a condition of project approval, the developer will comply with San Bernardino County weed abatement regulations (SBCC§ 23.031-23.043) and periodically clear the site of all non-complying vegetation, including weeds such as Russian thistle (tumbleweed, *Salsola tragus*), London rocket (*Sisymbrium irio*), redstem filaree (*Erodium cicutarium*), foxtail chess (*Bromus madritensis*), and cheatgrass (*Bromus tectorum*). The project will also conform to the requirements of the

Safety Element of the General Plan and the applicable portions of the San Bernardino County Code (primarily Title 2, Division 3, “Fire Protection and Explosives and Hazardous Materials”). Through compliance with these standards, the risks associated with wildfires on the project site are reduced to below a level of significance. No further analysis is warranted.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| Issues | | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|---|--------------------------------------|---|-------------------------------------|-------------------------------------|
| IX HYDROLOGY AND WATER QUALITY - Will the project: | | | | | |
| a) | Violate any water quality standards or waste discharge requirements? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) | Substantially deplete groundwater supplies or interfere substantially with groundwater recharge such that there will be a net deficit in aquifer volume or a lowering of the local groundwater table level (e.g., the production rate of pre-existing nearby wells would drop to a level, which will not support existing land uses or planned uses for which permits have been granted)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) | Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, in a manner that will result in substantial erosion or siltation on- or offsite? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) | Substantially alter the existing drainage pattern of the site or area, including through the alteration of the course of a stream or river, or substantially increase the rate or amount of surface runoff in a manner which will result in flooding on- or offsite? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| e) | Create or contribute runoff water which would exceed the capacity of existing or planned storm water drainage systems or provide substantial additional sources of polluted runoff? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| f) | Otherwise substantially degrade water quality? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g) | Place housing within a 100-year flood hazard area as mapped on a Federal Flood Hazard Boundary or Flood Insurance Rate Map or other flood hazard delineation map? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| h) | Place within a 100-year flood hazard area structure which would impede or redirect flood flows? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| i) | Expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| j) | Inundation by seiche, tsunami, or mudflow? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION:

- a) **Less than Significant Impact.** Operation of the project would not require the regular use of water or produce any form of wastewater. Waste Discharge Requirements (issued by the Lahontan Regional Water Quality Control Board) will be required to certify that any construction-period discharges to drainage crossings identified as under State jurisdictional do not result in significant impacts. As further explained below, the project would result in less-than-significant impacts related to the violation of any water quality standards.

Construction

Implementation of the project has the potential to generate stormwater pollutants during the construction phase. Stormwater runoff from the project site could contain pollutants such as soils and sediments that are released during grading and excavation activities, as well as chemical and petroleum-related pollutants due to spills or leaks from heavy equipment and machinery. Other common pollutants that may result from construction activities include solid or liquid chemical spills; concrete and related cutting or curing residues; wastes from paints, sealants, solvents, detergents, glues, acids, lime, plaster, and cleaning agents; and heavy metals from equipment.

Hazardous materials (such as fuels, solvents, and coatings, among others) associated with construction activities would be stored and used in accordance with manufacturer's specifications and applicable hazardous material regulations. However, soil disturbance (from construction activities associated with site grading, mounting of the solar panels, equipment installation, electrical conduit trenching, and scraping for the access roads) could cause soil erosion and the eventual release of sediment into stormwater runoff.

The NPDES permit program was established to control water pollution by regulating point sources that discharge pollutants into Waters of the U.S. Pursuant to Section 402(p) of the Clean Water Act (CWA), which requires regulations for permitting of certain stormwater discharges, the SWRCB issued the statewide NPDES General Permit for Storm Water Discharges Associated with Construction and Land Disturbance Activities (Order No 2009-009-DWQ, as amended), which became effective on July 1, 2010.

Under this Construction General Permit, individual NPDES permits or Construction General Permit coverage must be obtained for discharges of stormwater from construction sites with a disturbed area of one or more acres and are required to either obtain individual NPDES permits for stormwater discharges or be covered by the Construction General Permit.

Coverage under the Construction General Permit is accomplished by completing and filing Permit Registration Documents (PRDs) with the SWRCB prior to commencement of construction activities. Among the PRDs are a Risk Assessment, a Site Map, and a SWPPP. The primary objective of the SWPPP is to identify, construct, implement, and maintain BMPs to reduce or eliminate pollutants in stormwater discharges and authorized non-stormwater discharges from the construction site during construction. The Construction General Permit requires dischargers to assess the risk level of a project based on both sediment transport and receiving water risk, and each project would then be categorized

into Risk Level 1, 2, or 3, with increased monitoring required for certain higher-risk sites.

Pursuant to permit requirements, the applicant will be required to implement the BMPs outlined in the project's SWPPP, thereby reducing or eliminating construction-related pollutants in site runoff. Compliance with this requirement would ensure that temporary water quality impacts associated with construction activities would be less than significant.

Operations

If it is determined by the County that the project is subject to the preparation of a WQMP, it would be subject to the requirements of SWRCB Water Quality Order No. 2003-0005-DWQ, with a WQMP prepared following the standards established by the Lahontan RWQCB. During operations, the project would not require the use of chemicals, hazardous materials, or other pollutants that could impact waters. Panels may be washed periodically (typically no more than twice per year). Such cleaning would occur by spraying demineralized water on the panels to remove dust and other material buildup. Cleaning water (approximately 0.5 to 1 gallon per module) would be allowed to infiltrate into the ground or evaporate as it drips off the PV modules. No cleaning agents would be used during this process.

The PV panels and inverters would produce no waste during operation. PV panels are in a solid and non-leachable state; broken PV panels would not be a source of pollution to stormwater.

Based on these factors, there is no reasonable expectation of project operations resulting in impacts to water quality, and impacts would be less than significant.

- b) **Less than Significant Impact.** Operation of the proposed project would require minimal amounts of water, limited to cleaning of solar panels up to two times per year, using a total of less than 1 acre-foot of water per year. The project will not house permanent employees, nor include onsite restrooms. The project would also create a very small amount of imperviousness—less than 1 percent of the site would be made impervious as a result of the project. Impervious surfaces would be associated with pile foundations for PV panels and footings for ancillary facilities, such as inverters and transformers.

The PV panels themselves would not create an impervious surface; however, the smooth surface and downward slope would create a "sheet flow" off the bottom edge of the panels. Panels, however, are of a relatively small size, approximately 80 inches by 40 inches, which results in many breaks in the sheet flow, allowing water to drip to pervious soils below, and preventing a high concentration of water from being concentrated at one location.

Therefore, since the project would not use substantial amounts of groundwater or create large, impermeable surfaces, it would not cause depletion of groundwater supplies or interfere substantially with groundwater recharge such that there would be a net deficit in aquifer volume or a lowering of the local groundwater table level. Groundwater aquifer volume and recharge would not be significantly impacted by the implementation of the project.

- c) **Less than Significant Impact.** A review of the site for jurisdictional drainages was completed as part of the BHA (Appendix B). One drainage, which may be considered

jurisdictional by the State, crosses the site; this drainage is avoided by the project. The only project impacts on this drainage would be two small access roads and fencing. The project would not result in any noteworthy change in the drainage pattern of the site, with a negligible (less than 1 percent) increase in imperviousness and no substantial structures modifying stormwater flows. No large-scale grading to change land contours on the site is required. The site is generally flat, and the project would not cause existing slow-moving stormwater flows to be redirected, channeled, or accelerated, which would cause erosion or siltation. The project would not result in any substantial alteration to the drainage pattern of the site or area, nor would it cause any substantial erosion or siltation on- or off-site.

- d) **Less than Significant Impact.** As described in c.), above, the project would not impact any drainages, and the project would not otherwise result in any noteworthy change in the drainage pattern of the site, with a negligible (0.5 percent) increase in imperviousness and no substantial structures modifying stormwater flows. The Hydrology and Hydraulics Report (Hydrology Report) prepared for the project (Appendix D) calculates the change in peak flows from the site to be a maximum of 2 cubic feet per second (cfs), from 1,422 to 1,424 cfs (during a 100-year storm event), for the most-severely impacted sub-watershed area in the site vicinity. This increase is negligible. The project would not result any substantial alteration to the drainage pattern of the site or area, nor would it result in any substantial increase in runoff that could cause flooding on- or off-site.
- e) **Less than Significant Impact.** The project site is in a rural area with no developed storm & drainage system. Implementation of the project would cause imperviousness to increase
- f) only slightly, from 0 percent to 0.5 percent. As calculated in the Hydrology Report, runoff from the site would increase a negligible 2 cfs for the most-impacted sub-watershed. Additionally, the project would not contain elements that would cause runoff to be polluted or otherwise degrade the quality of storm waters. The project would have a less than significant impact related to the capacity of storm drainage systems and the quality of waters leaving the site.
- g) **No Impact.** The proposed project is a solar energy generation facility, and would not include any housing. Therefore, there would be no impact related to the placement of housing within a FEMA-delineated 100-year flood zone. No further analysis is warranted.
- h) **No Impact.** The proposed project is in Zone D on FEMA map number 06071C6510H and not within a 1 percent annual chance (100-year) flood hazard area. The nearest FEMA-delineated 100-year floodplain is 3.5 miles to the west. There would be no impact related to impedance or redirection of flood flows within that 100-year flood zone.
- i) **Less than Significant Impact.** The project would not expose people or structures to a significant risk of loss, injury or death involving flooding, including flooding as a result of the failure of a levee or dam, because the project site is not within any identified path of a potential inundation flow that might result in the event of a dam or levee failure or that might occur from a river, stream, lake or sheet flow situation (General Plan Hazard Overlays Map for Apple Valley South, FH07 B). There is no impact and no further analysis is warranted.

- j) **No Impact.** The project site would not be subject to inundation by seiche, tsunami, or mudflow. A tsunami is a series of ocean waves generated in the ocean by an impulsive disturbance. Due to the inland location of the proposed project, tsunamis are not considered a threat. A seiche is an oscillating surface wave in a restricted or enclosed body of water generated by ground motion, usually during an earthquake. Inundation from a seiche can occur if the wave overflows a containment wall or the banks of a water body. No impacts are expected to occur because the project is not adjacent to any marine or inland water bodies. The soils in the project area are well-drained, the terrain is relatively flat, and mudflows have not historically been an issue in the proposed project area. No further analysis is warranted.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|---|--------------------------------------|---|--------------------------|-------------------------------------|
| X. LAND USE AND PLANNING - Will the project: | | | | |
| a) Physically divide an established community? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Conflict with any applicable land use plan, policy, or regulation of an agency with jurisdiction over the project (including, but not limited to the general plan, specific plan, local coastal program, or zoning ordinance) adopted for the purpose of avoiding or mitigating an environmental effect? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Conflict with any applicable habitat conservation plan or natural community conservation plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION:

a) **No Impact.** The project would not physically divide an established community, because the project is located in an unincorporated part of the County that has sparse residential development and would occupy an area that is currently vacant. The project would not require the abandonment or relocation of any public rights-of-way, nor would it create an impediment for residents in the project area. Therefore, there would be no impact related to the dividing of an established community. No further analysis is warranted.

b) **No Impact.** The project site's land use zoning district is RL. According to Development Code Section 82.04.040, electrical power generation is a conditionally permitted use in this district. Therefore, approval of the CUP included in the project application would allow the project to be consistent with its land use zoning designation.

There are no other applicable plans adopted for the purpose of avoiding or mitigating an environmental effect that govern land use at the site. There is no impact and no further analysis is warranted.

c) **No Impact.** The project area is within the boundaries of the West Mojave Plan. The West Mojave Plan is a federal land use plan amendment to the Bureau of Land Management's California Desert Conservation Area (CDCA) Plan that presents a comprehensive strategy to conserve and protect sensitive plants and animals and the natural communities of which they are a part. The West Mojave Plan is applicable only to BLM-administered public lands within the West Mojave Plan area. Although the study area is within the West Mojave Plan area, it does not include BLM lands; therefore, future development would not be subject to the requirements of the West Mojave Plan.

A West Mojave Habitat Conservation Plan (HCP) for private lands is in preparation, and has not yet been approved by local or State agencies. Should the West Mojave HCP for development on private lands be adopted prior to implementation of the project, any future development would have to be consistent with its conditions.

The project site is also within the boundary of the proposed Desert Renewable Energy

Conservation Plan (DRECP) HCP and Natural Community Conservation Plan (NCCP). The DRECP is still in preparation; no draft of the document has been released for public review. Depending on the adoption (by the County) and implementation timeline for the DRECP HCP/NCCP, future development on the site may be required to comply with the conditions of the Plan. At this time, however, no consistency analysis is required, as the document is still in the preparatory phase.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|--|--------------------------------|--|-----------------------|-----------|
| XI. MINERAL RESOURCES - Will the project: | | | | |

- | | | | | | |
|----|--|--------------------------|--------------------------|--------------------------|-------------------------------------|
| a) | Result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) | Result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan or other land use plan? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION: (Check ☐ if project is located within the Mineral Resource Zone Overlay):

- a) **No Impact.** The project will not result in the loss of availability of a known mineral resource that will be of value to the region and the residents of the state, because there are no identified important mineral resources on the project site and the site is not within a Mineral Resource Zone Overlay. No further analysis is warranted.
- b) **No Impact.** The proposed project would not result in the loss of availability of a locally important mineral resource recovery site delineated on a local general plan, specific plan, or other land use plan (see discussion in Item XI.a). There is no impact and no further analysis is warranted.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|-------------------------------------|
| XII. NOISE - Will the project result in: | | | | |
| a) Exposure of persons to or generation of noise levels in excess of standards established in the local general plan or noise ordinance, or applicable standards of other agencies? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Exposure of persons to or generation of excessive groundborne vibration or groundborne noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) A substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| d) A substantial temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| e) For a project located within an airport land use plan or, where such a plan has not been adopted, within two miles of a public airport or public use airport, will the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) For a project within the vicinity of a private airstrip, will the project expose people residing or working in the project area to excessive noise levels? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION: (Check if the project is located in the Noise Hazard Overlay District ☐ or is subject to severe noise levels according to the General Plan Noise Element ☐):

- a) **Less than Significant Impact with Mitigation Incorporated.** Sensitive noise receptors in the vicinity of the project site include scattered residences. Without mitigation, noise generated from the proposed project could temporarily exceed standards established in the General Plan or Noise Ordinance, or applicable standards of other agencies. Specifically, construction of the proposed project may potentially create some elevated short-term construction noise impacts from construction equipment between the hours of 7 a.m. and 7 p.m. Section 83.01.080(g)(3) specifically exempts "temporary construction, maintenance, repair, or demolition activities" from County noise standards, when such activities occur between 7 a.m. and 7 p.m., excluding Sundays and federal holidays." With implementation of Mitigation Measure N-1, no significant impacts are anticipated. The mitigation measure ensures that noise generation from construction equipment/vehicle operation would be limited to daytime hours and would be localized, temporary, and transitory in nature. Construction-period impacts are therefore less than significant with the implementation of Mitigation Measure N-1.

Operation of the proposed project would not generate audible levels of noise or perceptible levels of vibration in the surrounding community. Onsite noises would be limited to daytime hours from inverters and pad-mounted transformers, and maintenance activities (including occasional cleaning, drive motor repair, tracker repair, electrical connection repair, and panel

replacement). The small motors used to rotate the panels would produce very low levels of noise, operate only during daylight, and be imperceptible from nearby residences. Similarly, the proposed inverters and pad-mounted transformers are small in scale and located over 250 feet from nearby residences, minimizing potential noise impacts. Maintenance activities would be infrequent and only during daylight hours. The project would not include dwellings or other development, nor would it have the potential to generate any significant number of additional vehicle trips after construction is completed.

Based on this analysis, it is concluded that the proposed project would not have a substantial adverse effect on noise during operations; impacts would be less than significant and no mitigation measures are required to reduce operational-period impacts.

- b) **Less than Significant Impact.** Groundborne vibration and groundborne noise could originate from earth movement during the construction phase of the proposed project as well as from the operation and maintenance of the facilities. Operation of the proposed project would introduce noise that would be associated with the moving parts of the tracker panels as well as general maintenance activities associated with the facility. Noise from these operational generators would be minimal in nature and would not create a significant noise impact within the surrounding area. The project would be expected to comply with all applicable requirements for long-term operation, as well as with measures to reduce excessive groundborne vibration and noise, to ensure that the project would not expose persons or structures to excessive groundborne vibration. Impacts would be less than significant.
- c) **Less than Significant Impact.** The proposed project would not create a substantial permanent increase in ambient noise levels in the project vicinity above levels existing without the project. The project would result in temporary noise increases during construction but would not create any substantial permanent increase in the ambient noise levels. Operational-period activities would include the occasional use of vehicles and the use of equipment that produce minimal noise levels at site boundaries.

Inverters would be centrally located in the solar field. The final inverter design has not yet been determined; however, uncontrolled inverter noise is expected to be up to 61 dBA at a distance of 10 meters (33 feet) from the inverters. Noise would only be produced by inverters during daytime hours, when the PV panels are producing electricity. Transformers would likely be located with the inverters. A typical inverter transformer in such an installation would be a 1,000 kVA liquid-immersed distribution transformer, which would result in average sound levels of 58 dBA at the source based on National Electrical Manufacturers Association (NEMA) requirements. While no specific transformer model has been selected, any transformer used onsite would follow the NEMA requirements, resulting in an average sound level of 58 dBA. The combined noise level of each inverter and transformer pair would drop to below 55 dBA at 100 feet, a distance which is within project boundaries or within public rights-of-way. Therefore, the combined noise of the inverters and transformers would be well below the Development Code's standard for stationary noise sources in residential areas of 55 dBA between 7 a.m. and 10 p.m. and 45 dBA between 10 p.m. and 7 a.m. (Table 83-2). Because the inverters would not be operating outside of daytime hours, there would be

virtually no operational noise during nighttime hours. Therefore, the project would not have a substantial adverse effect related to a substantial permanent increase in ambient noise levels and no mitigation measures are required.

- d) **Less than Significant Impact with Mitigation Incorporated.** Noise generated during the project's 4-month construction period could potentially result in some temporary or periodic increase in ambient noise levels in the project vicinity above levels existing without the project. Specifically, construction of the proposed project may potentially create some elevated short-term construction noise impacts from construction equipment. Mitigation Measure N-1 would ensure that impacts are below a level of significance by limiting noise-generating activities to the hours of 7 a.m. to 7 p.m., requiring the muffling of construction equipment where feasible, and requiring that stationary construction equipment be placed in a manner so that emitted noise is directed away from sensitive receptors.

During operations, noise from the facility would occur periodically due to occasional maintenance activities, twice-annual washings, and periodic visits by security staff. These activities would produce limited amounts of noise from pickup trucks and other light vehicles; such impacts would be temporary. Additionally, operating vehicles would only be located at any single point on the site for a very limited duration. Maintenance, repair, and washing activities would occur exclusively during daylight hours.

Because these impacts are a result of temporary maintenance activities, and with implementation of Mitigation Measure N-1, which limits these temporary activities to the hours of 7 a.m. to 7 p.m., excluding Sundays and federal holidays, they fall under the exemption provided by Section 83.01.080(g)(3) of the Development Code. Therefore, with implementation of Mitigation Measure N-1, temporary or periodic noise impacts would be less-than-significant.

- e) **No Impact.** The proposed project area is not located within the boundaries of an airport land use plan, and is not in the vicinity of an airport. The nearest airport is Apple Valley Airport, 9.5 miles to the north. Due to the distance of the airport from the project site, there would be no noise impacts from the airstrip on workers in the area.
- f) **No Impact.** The proposed project area is not located within the vicinity of a private airstrip. The nearest private airstrip is Hesperia Airport, located approximately 9.5 miles to the southwest of the project area. Due to the distance of the airstrip from the project site, there would be no noise impacts from the airstrip on workers in the area.

SIGNIFICANCE: Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:

NOISE MITIGATION MEASURES:

N-1 *Noise Mitigation.* The developer will submit for review and obtain approval of an agreement letter that stipulates that all construction contracts/subcontracts contain as a requirement that the following noise attenuation measures be implemented:

- a) Noise levels of any project use or activity will be maintained at or below adopted County noise standards (SBCC 83.01.080). The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.
- b) Exterior construction activities will be limited to between 7 a.m. and 7 p.m. There will be no exterior construction activities on Sundays or federal holidays.
- c) Construction equipment will be muffled per manufacturer's specifications. Electrically powered equipment will be used instead of pneumatic or internal combustion powered equipment, where feasible.
- d) All stationary construction equipment will be placed in a manner so that emitted noise is directed away from sensitive receptors nearest the project site.

| <i>Issues</i> | <i>Potentially Significant Impact</i> | <i>Less than Significant with Mitigation Incorporated</i> | <i>Less than Significant</i> | <i>No Impact</i> |
|---|---|---|----------------------------------|-------------------------------------|
| XIII. POPULATION AND HOUSING - Will the project: | | | | |
| a) Induce substantial population growth in an area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Displace substantial numbers of existing housing, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Displace substantial numbers of people, necessitating the construction of replacement housing elsewhere? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION:

- a) **No Impact.** The proposed project will not induce substantial population growth in the area, either directly (for example, by proposing new homes and businesses) or indirectly (for example, through extension of roads or other infrastructure). Construction is anticipated to take approximately 4 months, with a peak workforce of 50 construction workers on the site. Most of these workers would commute to the site from nearby communities such as Apple Valley, Hesperia, and Victorville. There would be no permanent staffing onsite during operations. Accordingly, the proposed project would not result in any impacts to housing or related infrastructure, nor would it require construction of additional housing. The project would not result in a substantial adverse effect related to substantial population growth in the area, and no mitigation measures are required.
- b) **No Impact.** The proposed project would not displace existing housing. There would be no impact related to displacement of housing.
- c) **No Impact.** The proposed project would not displace local residents. There would be no impact related to the displacement of people.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| <i>Issues</i> | <i>Potentially Significant Impact</i> | <i>Less than Significant with Mitigation Incorporated</i> | <i>Less than Significant</i> | <i>No Impact</i> |
|--|---|---|-------------------------------------|-------------------------------------|
| XIV. PUBLIC SERVICES | | | | |
| a) Will the project result in substantial adverse physical impacts associated with the provision of new or physically altered governmental facilities, need for new or physically altered governmental facilities, the construction of which could cause significant environmental impacts, in order to maintain acceptable service ratios, response times or other performance objectives for any of the public services: | | | | |
| Fire Protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Police Protection? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| Schools? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Parks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Other Public Facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION:

- a) **Fire – Less than Significant Impact.** The proposed project area is serviced by the AVFPD. The nearest fire station is Station 335, located 0.7 mile to the west of the project site. The proposed project would not substantially impact service ratios, response times, or other performance objectives related to fire protection. However, during construction, some public services including fire protection may be required; these would be short-term requirements and would not require increases in the level of public service offered or affect the agency's response time. The project would incorporate perimeter and internal access driveway systems that are accessible to emergency equipment. Entry gates would incorporate knox locks or similar devices to allow 24-hour access for emergency responders.

Any development, along with the associated human activity, in previously undeveloped areas increases the potential of the occurrence of wildfires. Comprehensive safety measures that comply with federal, state, and local worker safety and fire protection codes and regulations would be implemented for the proposed project that would minimize the potential for fires to occur during project construction and operations. Because of the low probability and short-term nature of potential fire protection needs during construction, the proposed project would not result in significant impacts associated with fire protection.

Police Protection – Less than Significant Impact. The proposed project area and other unincorporated portions of the County are served by the SBCSD. The Apple Valley Station, located 6.3 miles northwest of the project site, serves the local area. The proposed project

would not impact service ratios, response times, or other performance objectives related to police protection. However, during construction, some public services including police protection may be required. These would be short-term requirements and would not require increases in the level of public service offered or affect the agency's response times. In order to protect against theft and vandalism, the proposed project would employ its own security patrol crews to survey the project site during construction and operation of the project. Additionally, the project would incorporate security fencing and would be remotely monitored.

Schools – No Impact. Long-term operation of the proposed facilities would place no demand on school services because it would not involve the construction of facilities that require such services and would not involve the introduction of a temporary or permanent human population into this area. There would be no impact on schools and no further analysis is warranted.

Parks – No Impact. Long-term operation of the proposed facilities would place no demand on parks because it would not involve the construction of housing and would not involve the introduction of a temporary or permanent human population into this area. There would be no impact on parks and no further analysis is warranted.

Other Public Facilities – No Impact. The proposed project would not result in an increased resident population or a significant increase in the local workforce. Based on these factors, the proposed project would not result in any long-term impacts to other public facilities and no further analysis is warranted.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|--|--------------------------------------|---|--------------------------|-------------------------------------|
| XV. RECREATION | | | | |
| a) Will the project increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility will occur or be accelerated? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Does the project include recreational facilities or require the construction or expansion of recreational facilities which might have an adverse physical effect on the environment? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |

SUBSTANTIATION:

- a) **No Impact.** The proposed project would not increase the use of existing neighborhood and regional parks or other recreational facilities such that substantial physical deterioration of the facility would occur or be accelerated. No new residences or recreational facilities would be constructed as part of the proposed project and the proposed project would not induce population growth in adjacent areas. No significant adverse impacts on recreation would result from implementation of the project and no further analysis is warranted.
- b) **No Impact.** The proposed project does not include recreational facilities or require the construction or expansion of recreational facilities, which might have an adverse physical effect on the environment. No new residences or recreational facilities would be constructed as part of the proposed project. The proposed project would not induce population growth in adjacent areas and would not increase the use of recreational facilities in surrounding neighborhoods. No significant adverse impacts on recreation would result from implementation of the project and no further analysis is warranted.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|--|--------------------------------------|--|-------------------------------------|-------------------------------------|
| XVI. TRANSPORTATION/TRAFFIC – Will the project: | | | | |
| a) Conflict with an applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system, taking into account all modes of transportation including mass transit and non-motorized travel and relevant components of the circulation system, including but not limited to intersections, streets, highways and greenways, pedestrian and bicycle paths, and mass transit. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| b) Conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Result in a change in air traffic patterns, including either an increase in traffic levels or a change in location that results in substantial safety risks? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Substantially increase hazards due to a design feature (e.g., sharp curves or dangerous intersections) or incompatible uses (e.g., farm equipment)? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in inadequate emergency access? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance or safety of such facilities? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| SUBSTANTIATION: | | | | |

- a) **Less than Significant Impact.** A Trip Generation Analysis was prepared for the project by EPD Solutions in January 2014 (see Appendix E). The Trip Generation Analysis reveals that the proposed project would not result in any decline in the performance of the area's circulation system. During construction, a maximum of 73 passenger car equivalent (PCE) trips per day would occur, including a combination of passenger vehicles and large trucks. This number of trips would have a minimal impact on access routes to the project site, including Central Road and Bear Valley Road. During operations, the project would be unmanned and would generate less than one roundtrip per day for security and maintenance purposes.

Due to the rural nature of the project area, alternative means of transportation, including mass transit and pedestrian and bicycle routes, are generally unavailable, and would therefore not be negatively impacted by the project. The nearest bicycle path, 0.7 mile to

the west, on Tussing Ranch Road, would not be impacted by the project. Because the site would be unmanned, there would be no increase in demand for alternative means of transportation.

Therefore, the proposed project would not conflict with any applicable plan, ordinance or policy establishing measures of effectiveness for the performance of the circulation system. No significant adverse impacts on transportation or traffic would result from implementation of the project and no further analysis is warranted.

- b) **Less than Significant Impact.** As noted under impact a), above, the Trip Generation Analysis prepared for the project reveals that the proposed project would not result in any decline in the performance of the area's circulation system during the construction or operational period. The proposed project would therefore not conflict with an applicable congestion management program, including but not limited to level of service standards and travel demand measures, or other standards established by the county congestion management agency for designated roads or highways. The proposed project would result in a less-than-significant increase in traffic in relation to the existing traffic load and capacity of the street system. At the initiation of project construction, equipment that may include water trucks, backhoes, and loaders would be mobilized to the project site using Central Road. This equipment would then be stored onsite for the duration of construction and used as construction progresses. During operations, the project would be unmanned and would generate very few trips per week for security and maintenance purposes. Based on these facts, no significant adverse impacts on transportation or traffic would result from implementation of the project and no further analysis is warranted.

- c) **No Impact.** The proposed project would not affect air traffic patterns. The project site is not within the vicinity of any airport. The only substantial aboveground modifications would be solar panels and associated equipment with a maximum height of approximately 11 feet.

Potential impacts associated with reflectivity and glare are discussed in Section I, above. Based on the analysis provided in Section I, the project would result in less-than-significant impacts related to glare. Therefore, no significant adverse impacts on air traffic patterns would result from implementation of the project and no further analysis is warranted.

- d) **No Impact.** The proposed project would not include design features that could affect traffic safety, nor would it cause incompatible uses to be present on local roads. Project gates would be inset in accordance with County design standards to prevent vehicle stacking into public roads. No new roads are proposed as part of this project, and no significant increase in traffic is projected during project construction or operations. Therefore, no significant adverse impacts related to roadway design features or incompatible uses would result from implementation of the project and no further analysis is warranted.

- e) **No Impact.** The proposed project would not result in inadequate emergency access to the project area. During project construction, public roads would remain open and available for use by emergency vehicles and other traffic. The proposed project would not result in any

roadway closures in the vicinity of the project site. The project site would provide emergency access paths as approved by the AVFPD. The site's entry gate would be equipped with Knox® locks or similar devices to permit emergency responders to enter the site 24 hours per day. Perimeter and internal drives would be included to allow access to all points within the project site.

- f) **No Impact.** Due to the rural nature of the project area, no significant public transit, bicycle, or pedestrian facilities presently exist or are planned for implementation in the immediate vicinity of the project site. No alternative transportation policies, plans, or programs have been designated for the proposed project area. Because the project would be unmanned during operations, project implementation would not result in an increase in demand or decline in performance for public transit, bicycle, or pedestrian facilities in the region. Therefore, the proposed project would not conflict with adopted policies, plans, or programs regarding public transit, bicycle, or pedestrian facilities, or otherwise decrease the performance of safety of such facilities. No significant adverse impacts would result from implementation of the project and no further analysis is warranted.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|-------------------------------------|
| XVI. UTILITIES AND SERVICE SYSTEMS - Will the project: | | | | |
| a) Exceed wastewater treatment requirements of the applicable Regional Water Quality Control Board? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| b) Require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| c) Require or result in the construction of new storm water drainage facilities or expansion of existing facilities, the construction of which could cause significant environmental effects? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| d) Have sufficient water supplies available to serve the project from existing entitlements and resources, or are new or expanded, entitlements needed? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| e) Result in a determination by the wastewater treatment provider, which serves or may serve the project that it has adequate capacity to serve the project's projected demand in addition to the provider's existing commitments? | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| f) Be served by a landfill(s) with sufficient permitted capacity to accommodate the project's solid waste disposal needs? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| g) Comply with federal, state, and local statutes and regulations related to solid waste? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION:

- a) **No Impact.** The proposed project would not exceed wastewater treatment requirements of the Lahontan RWQCB. During construction, wastewater would be contained within portable toilet facilities and disposed of at an approved site. No employees would be permanently stationed at the site, and no permanent restrooms are planned. The project would discharge uncontaminated water that is used to clean the solar panels, with no toxicants or cleaning agents used. The County General Plan defers to applicable RWQCB water control requirements, and the proposed project's water discharge does not require treatment or permitting according to the regulations of the Lahontan RWQCB.
- b) **No Impact.** The proposed project would not require or result in the construction of new water or wastewater treatment facilities or expansion of existing facilities. The project would require minimal water use, consisting of less than 1 acre-foot of water for panel cleaning per year. Because the site would not contain a permanent workforce, no toilet facilities would be required and there would be no demand for wastewater service.

- c) **No Impact.** The proposed project would not require the construction or expansion of stormwater drainage facilities. As previously discussed in Section IX. Hydrology and Water Quality, if it is determined by the County that the project is subject to the preparation of a WQMP, it would be subject to the requirements of SWRCB Water Quality Order No. 2003-0005-DWQ, with a WQMP prepared following the standards established for the Mojave River Watershed Region. The proposed project would discharge uncontaminated water that is used to clean the solar panels, with no toxicants or cleaning agents used. The insubstantial quantity of discharged water generated by cleaning (less than 1 acre-foot) would evaporate or be absorbed into the soils onsite. Impervious surfaces created by the project would amount to less than 1 percent of the on the project site.
- d) **No Impact.** It is expected less than 1 acre-foot of water would be required to wash the panels each year. Water would be delivered by truck for this purpose. The project would not be served by a direct connection to any water system, or by an on-site well. Because of the negligible water supply requirements for the project (equivalent to about two single-family homes), there are no impacts associated with the need for new or expanded water supply entitlements.
- e) **No Impact.** The proposed project would not require or result in the construction of new wastewater treatment facilities or the expansion of existing wastewater treatment facilities. Accordingly, no impacts are anticipated from implementation of the proposed project.
- f) **Less than Significant Impact.** Less than significant impacts related to landfill capacity are anticipated from the proposed project. The proposed project largely consists of short-term construction activities (with short-term waste generation limited to minor quantities of construction debris) and would not result in long-term solid waste generation. Solid wastes associated with the proposed project would be disposed of as appropriate in local landfills or at a recycling facility. The nearest active landfill is the Victorville Sanitary Landfill, located 12 miles northwest of the project site. This landfill is not scheduled to cease operations until the year 2047.

The panels and tracking system would eventually need to be disposed of (decommissioned). Most parts of the proposed PV system are recyclable. Panels typically consist of silicon, glass, and a metal frame. Tracking systems (not counting the motors and control systems) typically consist of aluminum and concrete. All of these materials can be recycled. Concrete from deconstruction would be recycled through local recyclers. Metal and scrap equipment and parts that do not have free flowing oil would be sent for salvage. Equipment containing any free flowing oil would be managed as hazardous waste and be evaluated before disposal at a properly-permitted disposal facility. Oil and lubricants removed from equipment would be managed as used oil and disposed in accordance with applicable State hazardous waste disposal requirements.

- g) **Less than Significant Impact.** The proposed project would comply with all federal, state, and local statutes and regulation related to solid waste. The project would consist of short-term construction activities (with short-term waste generation limited to minor quantities of construction debris) and thus would not result in long-term solid waste generation. Solid wastes produced during the construction phase of this project, or during future

decommission activity would be disposed of in accordance with all applicable statutes and regulations. Accordingly, anticipated impacts from the proposed project related to landfill capacity are less than significant.

No significant adverse impacts are identified or anticipated and no mitigation measures are required.

| Issues | Potentially Significant Impact | Less than Significant with Mitigation Incorporated | Less than Significant | No Impact |
|--|--------------------------------------|---|-------------------------------------|--------------------------|
| XVII. MANDATORY FINDINGS OF SIGNIFICANCE: | | | | |
| a) Does the project have the potential to degrade the quality of the environment, substantially reduce the habitat of a fish or wildlife species, cause a fish or wildlife population to drop below self-sustaining levels, threaten to eliminate a plant or animal community, reduce the number or restrict the range of a rare or endangered plant or animal or eliminate important examples of the major periods of California history or prehistory? | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| b) Does the project have impacts that are individually limited, but cumulatively considerable? ("Cumulatively considerable" means that the incremental effects of a project are considerable when viewed in connection with the effects of past projects, the effects of other current projects, and the effects of probable future projects)? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |
| c) Does the project have environmental effects, which would cause substantial adverse effects on human beings, either directly or indirectly? | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | <input type="checkbox"/> |

SUBSTANTIATION:

- a) **Less than Significant Impact with Mitigation Incorporated.** As discussed in Section IV. above, without mitigation, the project could result in significant impacts to burrowing owl and nesting bird species. These species are commonly found throughout the region, including in preserved habitat areas and protected open space covering hundreds of thousands of acres. Mitigation Measures BIO-1 through BIO-6 are incorporated to reduce biological impacts on the project site to below a level of significance. With the implementation of these mitigation measures, implementation of the proposed project would not degrade the quality of the environment, substantially reduce the habitat of fish or wildlife species, cause a fish or wildlife populations to drop below self-sustaining levels, threaten to eliminate a plant or animal community, or reduce the number or restrict the range of a rare or endangered plant or animal, or eliminate important examples of the major periods of California history or prehistory.
- b) **Less than Significant Impact.** Cumulative impacts are defined as two or more individual effects that, when considered together, are considerable or that compound or increase other environmental impacts. The cumulative impact from several projects is the change in the environment that results from the incremental impact of the development when added to the impacts of other closely related past, present, and reasonably foreseeable or probable future developments. Cumulative impacts can result from individually minor, but collectively significant, developments taking place over a period. The *CEQA Guidelines*, Section 15130 (a) and (b), states:
- (a) *Cumulative impacts shall be discussed when the project's incremental effect is*

cumulatively considerable.

- (b) *The discussion of cumulative impacts shall reflect the severity of the impacts and their likelihood of occurrence, but the discussion need not provide as great detail as is provided of the effects attributable to the project. The discussion should be guided by the standards of practicality and reasonableness.*

There are currently no significant projects in the entitlement process or under development within the vicinity of the project site. Cumulative impacts would therefore be less than significant.

- c) **Less than Significant Impact.** As described in Sections I through XVI, above, prior to mitigation, the project has potentially significant impacts in the areas of aesthetics, air quality, biological resources, cultural resources, and noise. With the implementation of the mitigation measures provided in this Initial Study, these impacts are reduced to below a level of significance. There are no project impacts which remain significant and unavoidable following implementation of mitigation measures. In addition, for environmental issue areas that were not found to be significantly impacted by the project and therefore do not include mitigation measures, the implementation of project design features and County policies, standards, and guidelines would ensure that there would be no substantial adverse effects on human beings, either directly or indirectly.

Possible significant adverse impacts have been identified or anticipated and the following mitigation measures are required as conditions of project approval to reduce these impacts to a level below significant:

XVIII. MITIGATION MEASURES:

(Any mitigation measures which are not “self-monitoring” will have a Mitigation Monitoring and Reporting Program prepared and adopted at time of project approval. Condition compliance will be verified by existing procedure [CCRF].)

AESTHETICS

AES-1 *Lighting Requirements.* The area of illumination from any lighting will be confined to within the site boundaries to minimize impacts to night sky views from surrounding properties. On-site lighting will be fully shielded, diffused, or directed in a manner to avoid glare directed at adjacent properties, roadways or any light spill into any wildland areas surrounding the site that might affect nocturnal animals. No light will project onto adjacent roadways in a manner that interferes with on-coming traffic. All lighting will be limited to that necessary for maintenance activities, security, and safety purposes. All signs proposed by this project will only be lit by steady, stationary, shielded light directed at the sign, by light inside the sign or by direct stationary neon lighting.

AES-2 *Anti-Reflective/Diffusion Coatings.* Solar panels and hardware will be designed to minimize glare and spectral highlighting. To the extent feasible, emerging technologies will be utilized that introduce diffusion coatings and nanotechnological

innovations that will effectively reduce the refractive index of the solar cells and protective glass. These technological advancements are intended to make the solar panels more efficient at converting incident sunlight into electrical power, but have the tertiary effect of reducing the amount of light that escapes into the atmosphere in the form of reflected light, which would be the potential source of glare and spectral highlighting.

AIR QUALITY

AQ-1 AQ/Operational Mitigation. Operation of all off-road and on-road diesel vehicles/equipment will comply with the County Diesel Exhaust Control Measures [SBCC §83.01.040 (c)], including but not limited to:

- a) Equipment/vehicles will not be left idling for periods in excess of five minutes.
- b) Engines will be maintained in good working order to reduce emissions.
- c) Onsite electrical power connections will be made available where feasible.
- d) Ultra low-sulfur diesel fuel will be utilized.
- e) Electric and gasoline powered equipment will substituted for diesel powered equipment where feasible.
- f) Signs will be posted requiring all vehicle drivers and equipment operators to turn off engines when not in use.
- g) All transportation refrigeration units (TRUs) will be provided electric connections.

AQ-2 AQ/Dust Control Plan. The developer will prepare, submit and obtain approval from County Planning of a Dust Control Plan (DCP) consistent with MDAQMD guidelines and a letter agreeing to include in any construction contracts/subcontracts a requirement that project contractors adhere to the requirements of the DCP. The DCP will include the following elements to reduce dust production:

- a) Exposed soils and haul roads will be watered three (3) times per day to reduce fugitive dust during all grading/construction activities. Inactive areas will be treated with soil stabilizers such as hay bales or aggregate cover.
- b) Street sweeping will be conducted when visible soil accumulations occur along site access roadways to remove dirt dropped by construction vehicles.
- c) Site access driveways and adjacent streets will be washed daily, if there are visible signs of any dirt track-out at the conclusion of any workday.
- d) Construction vehicle tires will be washed prior to leaving the project site.
- e) All trucks hauling dirt away from the site will be covered, and speeds on unpaved roads will be reduced below 15 miles per hour.

BIOLOGICAL RESOURCES

BIO-1 Raven Management. The project will implement the following measures to mitigate impacts that could result in a local increase in common ravens:

- *Dispose of all trash and food-related waste in secure, self-closing receptacles to prevent the introduction of subsidized food resources for common ravens.*
- *Use water for construction, operation and maintenance in a manner that does not result in creating areas of standing water.*
- *Remove and dispose of road kills of common wildlife species from the project site and access road from soil disturbance and road kill (e.g., small mammals, insects, etc.). No species subject to the Endangered Species Act may be removed. Removal and disposal of all wildlife species can only be accomplished by an individual that possess a Scientific Collecting Permit issued by California Department of Fish & Wildlife.*
- *Remove any food sources and attractants from human and animal food and waste.*
- *Document common raven use of the project site and access road on a daily basis. If frequently used perching locations are identified, use physical, auditory or visual bird deterrents to discourage use by common ravens.*
- *Remove any inactive raven nests in the project site or along the access road.*
- *Raven nest removal must be conducted on all property structures for the life of the project. In the event that a nest is located with eggs, the nest will be removed following the completion of the nesting cycle unless, current implementation standards of the regional raven management plan allow for immediate removal.*

BIO-2 *Desert Tortoise – Access Road Clearance Surveys.* *Conduct 5 meter DT clearance surveys along any new or existing dirt access roads that will be used during the construction phase to identify areas of potential avoidance or areas where realignment of proposed access roads is preferred to minimize impacts.*

BIO-3 *Worker Awareness Education.* *Prior to ground disturbance, a professional biologist will hold a pre-construction education meeting with the construction foreman and on-site construction-related personnel to identify sensitive species that could be encountered onsite and the steps to take if sensitive species are identified. Specifically related to desert tortoise and burrowing owl, tortoise and owl worker awareness education should be provided to all construction-related personnel. Construction-related personnel should receive a information pamphlet on general tortoise, lizard and burrowing owl biology and how to recognize and avoid desert tortoises, and burrowing owls, authorized speed limits while working within the project site, trash abatement and checking under parked vehicles and equipment prior to moving.*

BIO-4 *Burrowing Owl Mitigation – Pre-Construction Surveys.* *Within 14 days prior to ground disturbance, the Applicant will retain a qualified biologist to conduct burrowing owl surveys within the area to be disturbed. The survey will be performed by walking parallel transects spaced no more than 20 meters apart, and will be focused on detecting burrows that are occupied, or are suitable for occupation, by the burrowing owl. The results of the surveys, including graphics showing the locations of any active burrows detected and any avoidance measures required, will be submitted to the*

County of San Bernardino and the California Department of Fish & Wildlife (CDFW) within 14 days following completion of the surveys. If active burrows are detected, the following take avoidance measures will be implemented:

- If burrowing owls are observed using burrows on-site during the non-breeding season (September through January, unless determined otherwise by a qualified biologist based on field observations in the region), occupied burrows will be left undisturbed, and no construction activity will take place within 300 feet of the burrow where feasible (see below).
- If avoiding disturbance of owls and owl burrows on-site is infeasible, owls will be excluded from all active burrows through the use of exclusion devices placed in occupied burrows in accordance with protocols established in CDFW's Staff Report on Burrowing Owl Mitigation (2012). Specifically, exclusion devices, utilizing one-way doors, will be installed in the entrance of all active burrows. The devices will be left in the burrows for at least 48 hours to ensure that all owls have been excluded from the burrows. Each of the burrows will then be excavated by hand and/or mechanically and refilled to prevent reoccupation. Exclusion will continue until the owls have been successfully excluded from the disturbance area, as determined by a qualified biologist.
- Any active burrowing owl burrows detected on-site during the breeding season (February through August, unless determined otherwise by a qualified biologist based on field observations in the region), will not be disturbed. Construction activities will not be conducted within 300 feet of an active on-site burrow at this season.

BIO-5 Nesting Bird Mitigation – Pre-Construction Surveys. Within 30 days prior to vegetation clearing or ground disturbance associated with construction or grading that would occur during the nesting/breeding season (February through August, unless determined otherwise by a qualified biologist based on observations in the region), the Applicant will retain a qualified biologist to determine if active nests of species protected by the Migratory Bird Treaty Act or the California Fish and Game Code are present within or adjacent to the disturbance zone or within 100 feet (300 feet for raptors) of the disturbance zone. The surveys will be conducted no more than seven days prior to initiation of disturbance work within active project areas. If ground disturbance activities are delayed, then additional pre-disturbance surveys will be conducted such that no more than seven days will have elapsed between the survey and ground disturbance activities. If ground disturbance will be phased across the project site, pre-disturbance surveys may also be phased to conform to the development schedule.

If active nests are found, clearing and construction within 100 feet of the nest (or a lesser distance if approved by the U.S. Fish & Wildlife Service) will be postponed or halted, until the nest is vacated and juveniles have fledged, as determined by the biologist. Avoidance buffers will be established in the field with highly visible

construction fencing or flagging, and construction personnel will be instructed on the sensitivity of nest areas. A qualified biologist will serve as a construction monitor during those periods when construction activities will occur near active nests to ensure that no inadvertent impacts on these nests occur.

The results of pre-construction nesting bird surveys, including graphics showing the locations of any nests detected, and documentation of any avoidance measures taken, will be submitted to the County of San Bernardino and California Department of Fish & Wildlife within 14 days of completion of the pre-construction surveys or construction monitoring to document compliance with applicable state and federal laws pertaining to the protection of native birds.

BIO-6 Avian Mortality Monitoring. In an effort to contribute meaningful data regarding the effects of industrial-scale photovoltaic solar projects on migratory birds, the Applicant will perform construction-phase and operations-phase avian mortality monitoring at the project site. Prior to issuance of a grading permit for the project, the Applicant will submit an Avian Protection Plan to the County of San Bernardino and the U.S. Fish & Wildlife Service (USFWS) ensuring that any birds encountered dead or injured on the project site are documented. At a minimum, the plan will include the following elements:

1. Bird Encounter Protocol during Construction

This section of the plan will include a protocol to be used upon discovery of a dead or injured bird during project construction to ensure timely and consistent data collection. At a minimum, the plan will require the Applicant and on-site biological monitor to determine pertinent information, such as the following:

- The species, life stage (adult or juvenile), and sex (if practical) of the bird
- The likely cause of injury or death, if apparent; and,
- The approximate date of death, for individuals that have been dead for a period prior to discovery.

2. Construction-Phase Reporting Requirements

This section of the plan will require that avian injury/mortality data be compiled and transmitted to the County of San Bernardino and the USFWS on a periodic basis, and will specify the frequency and method by which this notification should be made. However, in the event that avian species listed as Threatened or Endangered under the Endangered Species Act are encountered, the plan will require that the USFWS be notified immediately. Additionally, the applicant will not destroy, collect, or remove bird remains from the site without first obtaining any required permits from the USFWS and/or California Department of Fish & Wildlife (CDFW).

3. Operations-Phase Mortality Monitoring

This section of the plan will require that the Applicant retain a qualified biologist to conduct periodic avian mortality monitoring during operations at the site, and will

detail the methods by which this monitoring should be conducted. The plan will require monitoring for a minimum period of two years following completion of construction. A minimum of five monitoring events must be conducted during each year, and will be scheduled to coincide with peak migration periods. At least one monitoring event each year will be conducted during the winter months (November through January), to assess any mortality of wintering birds.

4. Adaptive Management

This section of the plan will set forth a process through which changes to the monitoring schedule or methods may be implemented if warranted due to unforeseen circumstances or other factors. During the construction- and operations-phase avian mortality monitoring, the Applicant and monitoring biologist will keep the County of San Bernardino and USFWS informed of monitoring progress and will alert these agencies if it appears that changes to the monitoring schedule or methods are needed. If it is apparent that substantial project-related injury or mortality of birds may be occurring, or if there are substantial unresolved questions regarding the project's effects on avian species, then the monitoring period, methods, or frequency may be modified to address these concerns. In addition, if specific project elements are resulting in substantial avian injury or mortality, the plan will direct that the Applicant work with the USFWS to identify and implement reasonable measures to modify these elements in a manner that lessens the effects on migratory birds.

CULTURAL AND PALEONTOLOGICAL RESOURCES

CR-1 Construction Monitoring. A qualified archaeologist will be retained by the Applicant/landowner and approved by the reviewing agencies prior to the commencement of the project. The archaeologist will be on-call to monitor ground-disturbing activities and excavations on the project site following identification of potential cultural resources by project personnel.

CR-2 Resource Evaluation and Disposition. If archaeological resources are encountered during implementation of the project, ground-disturbing activities will be temporarily redirected from the vicinity of the find. The archaeologist will be allowed to temporarily divert or redirect grading or excavation activities in the vicinity in order to make an evaluation of the find and determine appropriate treatment that may include the development and implementation of a data recovery investigation or preservation in place. All cultural resources recovered will be documented on California Department of Parks and Recreation Site Forms to be filed with the California Historic Resources Information System (CHRIS) San Bernardino Archaeological Information Center (SBAIC) at the San Bernardino County Museum in Redlands, California. The archaeologist will prepare a final report about the find to be filed with the Applicant/landowner and the CHRIS-SBAIC. The report will include documentation and interpretation of resources recovered. Interpretation

will include full evaluation of the eligibility with respect to the National Register of Historic Places and California Register of Historical Resources and CEQA. The Applicant, in consultation with the Lead Agency and archaeologist, will designate repositories in the event that resources are recovered.

CR-3 Human Remains. If human remains are encountered unexpectedly during construction excavations and grading activities, State Health and Safety Code Section 7050.5 requires that no further disturbance will occur until the County Coroner has made the necessary findings as to origin and disposition pursuant to PRC Section 5097.98. If the remains are determined to be of Native American descent, the coroner has 24 hours to notify the Native American Heritage Commission (NAHC). The NAHC will then identify the person(s) thought to be the Most Likely Descendent of the deceased Native American, who will then help determine what course of action will be taken in dealing with the remains. The landowner will then undertake additional steps as necessary in accordance with CEQA Guidelines Section 15064.5(e) and PRC Section 5097.98.

PR-1 Pre-Construction Responsibilities. A qualified paleontologist will be retained by the Applicant and approved by the County of San Bernardino prior to the implementation of the Proposed Project to execute a paleontological monitoring plan. A qualified paleontologist is defined here as a paleontologist meeting the qualifications established by the Society of Vertebrate Paleontologists. The paleontologist will:

1. Review the grading study and coordinate with project engineers to become familiar with the proposed depths and patterns of grading across the project site.
2. Enter into a repository agreement with an accredited institution (such as the San Bernardino County Museum) before grading operations commence to ensure that an appropriate facility has been selected to curate any fossils encountered during the monitoring program.

PR-2 Construction Monitoring. A paleontological monitor, supervised by the paleontologist, will monitor all project-related ground-disturbing activities that reach two meters (5.5 to 6 feet) or more in depth. Pile driving is not considered a ground-disturbing activity for the purposes of this mitigation measure. If fossils are found during ground-disturbing activities, the paleontological monitor will be empowered to halt those activities within 25 feet of the find to allow evaluation of the find and determination of appropriate treatment.

PR-3 Resource Collection and Disposition. The paleontological monitor and/or the paleontologist will collect all significant fossils encountered. All significant fossils will be stabilized and prepared to a point of identification and permanent preservation. The paleontologist will prepare a final report on the monitoring. If fossils were identified, the report will contain an appropriate description of the

fossils, treatment, and curation. A copy of the report will be filed with the Applicant, the County of San Bernardino, and the San Bernardino County Museum, and will accompany any curated fossils.

NOISE

N-1 *Noise Mitigation.* The developer will submit for review and obtain approval of an agreement letter that stipulates that all construction contracts/subcontracts contain as a requirement that the following noise attenuation measures be implemented:

- a) Noise levels of any project use or activity will be maintained at or below adopted County noise standards (SBCC 83.01.080). The use of noise-producing signals, including horns, whistles, alarms, and bells, will be for safety warning purposes only.
- b) Exterior construction activities will be limited between 7 a.m. and 7 p.m. There will be no exterior construction activities on Sundays or federal holidays.
- c) Construction equipment will be muffled per manufacturer's specifications. Electrically powered equipment will be used instead of pneumatic or internal combustion powered equipment, where feasible.
- d) All stationary construction equipment will be placed in a manner so that emitted noise is directed away from sensitive receptors nearest the project site.

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PROJECT-SPECIFIC REFERENCES

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Phoenix Biological Consulting. (2013, December 23). Biological Habitat Assessment for Proposed Photovoltaic Solar Array "Apple Valley East."

Phoenix Biological Consulting. (2013, December 23). Focused Desert Tortoise & Burrowing Owl Presence/Absence Surveys and Rare Plant Surveys. Proposed Photovoltaic Solar Array "Apple Valley East."

Phoenix Biological Consulting. (2013, December 23). Phase I Cultural Resources Assessment for Proposed Photovoltaic Solar Array "Apple Valley East."

LIST OF APPENDICES

Appendix A Air Quality and Impact Analysis

Appendix B Biological Reports

Biological Habitat Assessment (January 2013)

Focused Surveys for Burrowing Owl, Desert Tortoise, and Rare Plants (June 2013)

Appendix C Cultural Resources Assessment and Paleontological Resources Letter

Appendix D Preliminary Hydrology Report

Appendix E Construction Management Plan and Trip Generation Letter
